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PROGRESS IN MEDICINE DURING THE PAST TWENTY-FIVE YEARS

BY

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The advances in medicine during the present reign have been so many and so varied that an attempt to mention them all would result in a mere catalogue. It is better, therefore, to lay the emphasis mainly on those advances which involved the establishment of new principles. It is, moreover, helpful towards a right perspective, and a corrective against overweening pride in the achievements of our time, if we bear in mind the great and outstanding advances made in the previous twenty-five years; the establishment of bacteriology on a solid basis, with the corollaries of antitoxins, agglutinins, and vaccines; the discovery of radio-activity; and the recognition of the principle of internal secretion. It is sufficient to mention these to appreciate how much of recent advance is built up on those foundations.

Recognition of Deficiency Diseases

The new principle on the chemical side which inevitably comes first into the mind is the recognition of deficiency diseases. But even here we must remember that the part played by polished rice in the production of beriberi had been known since 1897, and it had long been recognized that scurvy was in some way associated with lack of fresh food. Moreover, in 1906 Hopkins had started the scientific study of accessory food factors which led to the recognition of vitamins in 1912. Yet even at the end of the war it was still hotly disputed whether rickets was a disease of diet or of the dark. The realization that both factors were involved is an interesting chapter in the history of medicine: that a particular part of the solar spectrum could produce metabolic changes in a particular sterol leading to the formation of vitamin D was a revelation. Indeed, it was a revelation which led for a time to an uncritical application of ultra-violet rays for all sorts of diseases. Yet it is not unreasonable to regard calciferol as "bottled sunlight." The history of the other vitamins is hardly less dramatic, particularly the story of the tracing of the antiscorbutic principle to ascorbic acid, its production during the germination of seeds, and its abundant presence in paprika. Historians tell us that Elizabethan wars often resolved themselves into a struggle for pepper fields—as if man had been urged to obtain something that was good for him, he knew not why, just as herds will stampede towards a salt-lick. Appetite is a craving to satisfy biological needs which cannot always be expressed in terms of calories.

And so dietetic deficiency as a factor in disease became increasingly recognized. The intense potency of the small dose received scientific sanction and vitamins were labelled exogenous hormones. For it was believed that animals were incapable of manufacturing their own vitamins, though later it was found that they could in some instances complete that manufacture. Closely associated with these discoveries was the demonstration that pernicious anaemia was not a haemolytic process but a disease due to both an intrinsic and an extrinsic deficiency. Many anaemias were recognized to be the result of a failure at some stage in the maturation of the red blood corpuscle.

Endogenous Hormones

This naturally leads on to a consideration of the endogenous hormones. Several of these had already been identified, and Starling's theory of the chemical control of the body had been enunciated by 1905, but insulin, parathormone, and oestrin were still unknown. The discovery of insulin in 1922 revolutionized the prognosis and treatment of diabetes, and further emphasized the principle of antagonistic hormones. Parathormone clarified our ideas on calcium metabolism in general, and led to the recognition of a new clinical entity—hyperparathyroidism. Oestrin not only threw light on the physiology of reproduction, but in the hands of the biochemists gave us an entirely new view of the relation between hormones and other potent chemical agents.

On the one hand, it was realized that the central nervous system, acting through the diencephalon, had a greater control over the endocrine system than had been thought, and that this control was exercised mainly through the pituitary, the leader of the endocrine orchestra. On the other hand, it was shown that while thyroxine, pituitrin, and adrenaline contained comparatively simple benzene rings, oestrin contained more complicated ones; that it was a sterol closely allied chemically to calciferol and carcinogenetic substances. A similar substance is contained in the organism of the developing embryo, and its release at the wrong time or place may give rise to teratomata and even more malignant growths. It would lead us too far to speculate on the effect this discovery must have on our views on cancer, but it is extraordinary to find a common chemical factor in reproduction, normal growth, and the disorderly growth of tumours. The fact that the body itself uses chemical agents for its own regulation has re-established our belief in the efficacy of drugs, which has been reinforced by Sir Henry Dale's proof that every nervous impulse liberates a chemical substance, and that drugs can facilitate or inhibit the effect of such substances on the tissues. This will lead to a new pharmacology, in which individual reactions of the patient will call for further attention.

To this the study of allergy is leading. It has already contributed to a scientific explanation of the old adage that "one man's meat is another man's poison." As is so often the case in medicine, this conception is being

rather too extensively invoked to interpret many diseases of hitherto unknown causation, but it has been fruitful in a number of ways. Particularly does it illustrate the relation between the chemical and nervous factors in the reaction of the organism to disease, for it is a familiar observation that the psychic state can modify the chemical manifestations of allergy.

Blood Chemistry in Clinical Medicine

But before we turn to that other great change in our outlook—the psychological aspect—we must briefly consider the means by which the new biochemical knowledge has been utilized for clinical ends. We are no longer satisfied with the study of the end-products of bodily chemical activity as manifested in excretions; we concentrate our attention more on the internal medium of exchange—the blood. It is true that the biochemist is going further back still—to the changes in the tissue cell itself—but here at present he eludes the clinician. However, the study of blood chemistry has notably advanced our ideas of metabolic diseases. The blood sugar curve explains more than merely examining the urine for sugar. The estimation of urea in the blood is a more valuable indication of the condition of the kidney than the percentage of urea in the urine; the relation between the two, the urea clearance as it is called, gives perhaps the most valuable information of all. The estimation of cholesterol, calcium, and phosphorus in the blood is throwing light into obscure corners. The analysis of the blood for its uric acid content has banished the bogy of "suppressed" gout, while its overt manifestations are mysteriously declining.

The fractional test meal has compelled us to modify many of our ideas concerning altered gastric secretion in disease. That achlorhydria is a necessary or frequent concomitant of several diseases was, like the recognition of allergy and of other inborn errors of metabolism, a step towards the re-establishment of the doctrine of diatheses, this time on a scientific basis. But the increasing incidence of achlorhydria in the successive decades of life has also demonstrated the revolt of the stomach against the many insults heaped upon it, and the remote results of that revolt are better understood. It would be true, however, to say that the *x*-ray diagnosis of digestive diseases takes pride of place over the test meal to-day. It has been amusingly said that we now do test meals for blood diseases rather than for gastric diseases.

One senses an increasing recourse to the sedimentation rate for prognosis and a diminishing reliance on the basal metabolic rate among diagnostic measures. It is, of course, inevitable, and rightly so, that we should be able to dispense with elaborate apparatus to some extent, once that apparatus has sharpened our clinical acumen. Thus the electrocardiograph was necessary for the accurate recognition of, and addition to, the types of cardiac irregularity and their significance. It completed the pioneer work of Sir James Mackenzie with his polygraph. But the beautifully exact researches of Sir Thomas Lewis have taught us how to be able in many cases to dispense with the method he brought to such perfection, and he himself has turned his attention from the heart to the periphery of the circulation, with rich results. The electrocardiograph, however, retains an important place in the exact diagnosis of obscure cardiac lesions.

Radioactivity in Medicine

In the same way one notes that electrical methods are less in vogue than formerly, except as a means of manifold applications of heat by diathermy. But on the whole massage, manipulations, and exercises of various kinds are largely replacing treatment by electricity. It is curious to recall that *x* rays were originally adjuncts to the electrical department. Now every year they assume increasing importance both for diagnosis and for treatment. The technique of barium meals has been greatly improved, revealing details formerly beyond our ken. Quite as striking have been the advances in the diagnosis of diseases of the chest, largely owing to the accidental discovery of the remarkable properties of lipiodol. The selective action of the gall-bladder and the kidneys in the excretion of substances opaque to *x* rays has been utilized for diagnosis. Even lesions of the central nervous system have been demonstrated by radiology. But the interpretation of shadows must always be open to fallacies, which can only be avoided by the fullest co-operation between the clinician and the radiologist. Deep *x*-ray therapy has proved of great value in the alleviation of new growths, leukaemia, and various other diseases, but it is too soon yet to speak of cures thereby. This is also true of treatment by radium. Research is still needed on the biological effects of radioactivity, and we have been forced to realize the imperative need for the most scrupulous accuracy in its application and of judgement in the dosage. But even now dramatic results are being obtained, though naturally time must elapse before permanent cure can be proved. Risks to the patient or to the administrator of such powerful agents have been largely controlled.

Therapeutics

It used to be said that there were three things in treatment: the first was diagnosis, the second was diagnosis, and the third was diagnosis. At the beginning of the present reign a physician said to the writer that the in-patient treatment of a medical case consisted of appropriate food, good nursing, and something three times a day out of a bottle. Such expressions were perhaps exaggerations, but they indicated a frame of mind much too prevalent then. Therapeutics have come into their own much more in the last quarter of a century. It was in 1910 that Ehrlich introduced the organic compounds of arsenic, which have revolutionized the treatment of syphilis, with the aid of other heavy metals such as mercury and bismuth. Indeed, one has only to think of the extended use of arsenic, and the revival of treatment by antimony, by gold, and by iron in new ways to realize how much more reliance is placed on metals than formerly. The therapeutic applications of hormones and vitamins have already been alluded to. Vegetable analogues to hormones have been found in ephedrine for adrenaline, and for oestrin, and claimed for insulin. Some hormones have been synthetically prepared and others may be expected shortly. Meanwhile, the chemist has been busy experimenting with new chemical compounds, of which, perhaps, the barbiturates are the most outstanding example. Coincident with all this activity our conceptions of therapeutics have been greatly extended by the introduction of so many physical methods. Basing our treatment on the natural history of the disease, we stand by, ready to use anything which experience or experiment teaches us may help the native forces of the patient in his struggle.

Psychotherapy and its Future

I have left to the last what is perhaps the profoundest change of all: a new realization of the psychological aspect of medicine. From time immemorial the successful physician has been consciously or unconsciously a psychotherapist. Indeed, looking at some of the prescriptions of the past, it is difficult to see what other value he could have possessed. But such psychotherapy was based on intuition, sympathy, and personality, as indeed it must continue to be. Before the war any more formal

psychotherapy was largely suspect. Then the psychoneuroses of the soldier simply forced it upon our notice. No longer was it possible for us to reach the diagnosis of "functional" or "hysterical" and leave it there. At last we understood why more than half the patients we saw on entering practice were suffering from conditions undescribed by our teachers or our textbooks. We turned our attention to their mental conflicts and their environmental difficulties; and then to our surprise and chagrin we found there was a neglected mass of information ready to hand. True we had heard that Charcot had induced in his patients most of the dramatic symptoms he described, that Janet had talked of dissociation, and that there was a man named Freud who had some very uncomfortable ideas. But our seniors strongly disapproved of him, and he was disowned by his own confreres.

This is not an unfair picture of the medical outlook in 1914. Within four years that picture had completely changed. If psychotherapy has not achieved as much as was anticipated it is due to two main causes. On the one hand the patient may hug his or her psychoneurosis as a cherished possession. Indeed, of some personalities it may be asked, What is left if you take away the psychoneurosis? It has become the keystone of the arch. It sometimes seems as risky to try and impose a normal attitude to life upon them as it is to try and impose a normal rhythm on a long-standing case of auricular fibrillation. Neither the individual in the one case nor the heart in the other can stand up to it. This, indeed, Janet realized. On the other hand, the fissiparous tendencies of the psychotherapists themselves have indeed been a stumbling-block. Dictatorships, heresy hunting, and excommunications have been all too prevalent. In so far as these exist medical psychology has failed to become a science and interferes with its own art. Not until such internecine struggles subside will real advance be possible, and it will cease to be said that the trouble about psychotherapy is the psychotherapists. Yet the need for them is a crying one, for not only is psychoneurosis the only basis for many ills apparently physical, but all physical ills have their psychical aspect.

When the dust and smoke of the battle now raging have settled, it will probably be realized that the services of Freud to knowledge have been as great as those of Darwin. His views as to the working of the unconscious mind and of the effect of repressions form a great unifying conception. His use of free association has placed a valuable method in our hands. But his extension of the idea of sex to include practically the whole of life, stated as aggressively as possible, not only challenged opposition, as it was presumably intended to do, it has revealed an unwillingness to recognize that a clash between any of the primary instincts may induce a psychoneurosis. It was on this point that his two leading disciples, Jung and Adler, broke away from him. Jung's chief contributions to psychological theory have been the distinction between the extraverted and introverted types of personality, and the idea of the collective unconscious. For Adler the individual's behaviour, whether normal or abnormal, is determined by his aim or goal. Hence he calls his view-point individual psychology. He maintains that neither "the conscious" is so fully conscious nor the "unconscious" so unconscious as the others imagine. He regards the individual's "style of life" as determined during the first six years of his existence, when he appreciates his own weakness and develops a feeling of inferiority. This feeling should normally act as a stimulus to fresh effort, but if the individual retreats from such effort and adopts an attitude of non-co-operation he will become psychoneurotic. If he fails to adapt himself to any one of the three great demands—society, occupation, and sex—this is almost certain to happen.

Now it ought not to be beyond the wit of man to adopt some of the main ideas promulgated by each of these leaders in medical psychology and to constitute thereby a satisfactory eclecticism. Rivers, basing his work on a depth of biological and physiological learning which none of them possesses, was on the way to construct such a system when his death dealt an irreparable blow to the English school. Nevertheless, many English psychologists, displaying our national gift for compromise, have been able to make such selections, and are going ahead on sane and helpful lines. Medical students are avid for instruction in medical psychology, general practitioners are finding a new zest in their work in the realization that neurotic symptoms have as definite a cause as physical ones, and these newer conceptions are permeating the whole of treatment.

Conclusion

Thus biochemistry and psychotherapy are bringing new aids for the relief of suffering. Their combined efforts are leading to the comprehension of the individual who has the disease, and not merely of the disease which the patient has. In other words, dis-ease is seen as a reaction of the patient to some abnormal stimulus, physical or psychical, in his external or internal environment. The practitioner is being provided with many new weapons, diagnostic and therapeutic, to aid towards a successful issue of that struggle. The future for the advance of medicine is full of hope, especially if we are filled with the spirit which prompted Clifford Allbutt, when approaching the age of 80, to write, soon after King George ascended the throne, "With all this new knowledge coming up on the horizon, what a joy it would be to begin it all over again."

According to J. Mikler (*Thèse de Paris*, 1934, No. 810) the rarity of scarlet fever in the infant is shown by the fact that only five cases in a series of 3,000 occurred in the first year of life, as compared with sixty in the second and 238 in the third year. The maximum was reached at the age of 6 years, with 333 cases. From 7 to 8 there was a decline (302), and after the age of 9 there was a sharp fall until the lowest number was reached at 15 (three cases). Like measles, scarlet fever is essentially a disease of winter and spring, but its highest incidence occurs slightly later. The number of patients attacked during the first six months of the year was almost double that of the last six months. It frequently declines rapidly during the summer, and shows a recrudescence during the last three months of the year. Deaths amounted to 112 out of 3,000 cases—a fatality rate of 3.7 per cent. During the first two years, when the patients were not isolated in separate chambers, fifty-one out of 544 cases (9.3 per cent.) were fatal, whereas during the last seven years, when individual isolation was established, only sixty-one deaths occurred among 2,455 cases (2.4 per cent.). Another result of individual isolation was the disappearance of diphtheria from the scarlet fever block, every child who was found to be Schick-positive on admission being immunized by Ramon's anatoxine. The fatality was highest among the youngest children, the chief cause of death being bronchopneumonia (twenty-six cases), and then in order of frequency: malignant scarlet fever (nineteen cases), suppurative otitis (seventeen cases), mastoiditis (six cases), acute meningitis (six cases), appendicular peritonitis (three cases), empyema (one case), and cerebral arteritis, erysipelas, and haemorrhagic nephritis (one case each). Isolation of from thirty to thirty-five days was found sufficient to prevent return cases, except in cases complicated by tonsillitis, otitis, and suppuration, which require to be isolated until complete recovery takes place.

PROGRESS IN SURGERY DURING THE PAST TWENTY-FIVE YEARS

BY

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The request to describe the changes in surgery during the last twenty-five years gives food for thought in several directions. In the first place it makes the writer aware that time is passing, and in the second it makes him realize that he has no accurate knowledge of what was standard in 1910. This difficulty lies in the fact that a surgeon, in the active practice of his profession and in daily contact with colleagues and students, assimilates so easily and painlessly the improvements as they come about that he is not actively conscious that the surgery he is practising to-day differs greatly from that of twenty-five years ago. The older the surgeon the truer is this statement, possibly because the mind of youth is more keen and nimble.

The first thing in this task is to try and get some idea of what was happening in those distant days. This can be done by turning to the books and periodicals of the day. The textbooks for students will be a bit behind the actual practice, as they had to be careful that procedures were accepted before passing them on to the surgical aspirant. The *Proceedings* of societies will have erred in the other direction: they put forward individual ideas and theories not yet passed into accepted practice. A study of the literature of the last twenty-five years reveals the fact that progress has not been so rapid as it would appear. It shows that the line traced by improvements is not a straight line, but rather like that traced by the fly on the cartwheel—even if it does not actually bend back on itself. Many things that are a matter of debate and discussion to-day were in the same state years ago; no finality has been reached. On the other hand, there are many things we now have which are a definite advantage—better and surer knowledge, and better and keener weapons.

Surgery of the Abdomen

Twenty-five years ago surgeons still thought it worth while to publish statistics showing their successes in treating perforated ulcers of the stomach and duodenum. The cause of the ulcer was, as now, a matter of debate, and the problem presented to the surgeon much as it is to-day. The same may be said about the treatment, except that gastro-jejunostomy was considered more of a cure-all than at the present time, and that gastrectomy was not so popular as it has been in the intervening time. Surgeons nowadays, having tried many things and garnered much experience, seem again inclined to let their medical colleagues have a good innings before stepping in to supplant them. Looking at it broadly, we seem to be more or less back where we were as regards the acuter forms of these evils.

The Appendix.—The surgeon had wrested the acute appendix from his colleagues, and was in full blast of attacking the acute disease without discrimination. Getting nearer to the present time, a number of surgeons began to doubt if it were wise to rush in when confronted with the acute disease in its later stages. Those who practise the misnamed "delayed operation" are satisfied with their results, but are rather looked down upon by those who disagree with them, though the "root and branch" fraternity never seem to have understood the inwardness of the question. Allied to this subject is the drainage of the peritoneum; this is employed a great deal less than formerly, though there are those who mistrust the remarkable self-defence of this serous sac.

The Rectum.—The abdomino-perineal excision has been placed before the profession and ably advocated. It was planned after much patience and scientific observation; it has obtained brilliant success in many cases, but time has shown that scientific accuracy is somewhat discounted in its application by the disability of the organism to withstand the demands made on it by a scientific attack. The perineal and abdomino-perineal operations still fight for supremacy.

Misplaced Organs.—The time under discussion has seen the rise and fall of operations for the fixation of loose and displaced organs. Fixation of the kidney is an old operation, still admittedly useful in certain cases, but there seems no justification for the almost reckless manner in which it was practised, nor for the argument that mental disturbance was likely to follow failure to keep the organ still. A multitude of evils were also attributed to an imperfectly situated colon. The fixation of the offending gut had for a time a considerable vogue, but seems now to have passed into the list of operations best omitted.

Injuries, Fractures, and Deformities

As a result of the war orthopaedic surgery may be said to have come out of the side streets into the main thoroughfares. Formerly orthopaedics confined itself to making the crooked child straight; with great patience and perseverance it moulded and gave to the cripple a better use of his limbs. In and after the war it vastly increased its domain, its boundaries being almost invisible; now it is settling down to a more defined sphere. It has taken to itself the treatment of fractures, about which, in the latter years, there has been much heartburning; those obscure cases of aches and pains which follow trauma; and the re-education of the injured by means of physical therapy. Fortunately it is young enough and enterprising enough to take under its aegis those ills the treatment of which have hitherto been without the pale.

Surgical tubercle, which now hardly finds a place in a general hospital, has become the ward-mate of the cripple—a sensible arrangement, seeing that the hygienic requirements of both are very similar. Another thing to note is the growth of mechanical surgery, as exemplified by the use of autogenous bone graft. One criticism which might be levelled at the orthopaedic surgeon of to-day is that he is a little forgetful that he had a mother from which he sprang, but this defect is perhaps only an attribute of youth. The success attained by plastic surgery (a specialism within a specialism) can hardly be realized by him who practised making noses twenty-five years ago. It is one of the few things for which we can thank the war. It is a wonderful mixture of skill, patience, ingenuity, and knowledge. We may hope that it will keep itself to its legitimate business.

Radiation

Radiation in its various forms has made a very distinct impression on surgery, possibly more than any other recent innovation. In two well-known student textbooks extant in 1910 radium is dismissed in a line. In the *Medical Annual* it is stated that a voluminous literature had already been accumulated, but it appears that the use of radium was almost entirely limited to surface application, often without screenage, though the part of filters was

being discussed. Interstitial radiation as now understood came into use about 1912, and deep therapy in 1920. In the case of the tongue, the lip, the fauces, buccal mucous membrane, and sinuses about the superior maxilla, radiation has almost replaced surgery. It is a formidable competitor in carcinoma of the larynx. It has made little or no progress in the treatment of the alimentary canal below the pharynx. In the case of the breast the results of radiation by itself or combined with surgery appear to equal the results of surgery alone. It has been put forward that one of the advantages of attacking cancer of the breast with radium is the absence of shock. This I think could have been said with truth twenty-five years ago. In those days a house-surgeon who had assisted at an amputation of the breast often had a very anxious time during the ensuing evening. Nowadays these cases cause considerably less anxiety. It is difficult, perhaps, to determine the cause, but in my mind it is connected with the turning topsy-turvy of the operation—that is, with the modern practice of starting at the axilla and ending up with the removal of the organ, in contradistinction to the old operation, which attacked the axilla last.

Speaking of radiation as a whole, it may be said that a primary growth can be made to disappear, but in the case of glandular infection the problem that faced the surgeon twenty-five years ago remains the same. Isolated metastasis can be destroyed or kept in check, but generalized metastasis is still beyond the power of radiation or surgery. Intimately connected with radiation is the part that physics is taking in the clinical world. Some knowledge of physics has always been part of medical education, but instruction was limited to the early years, and no contact was established with the man in actual practice. It was in 1910 that a professor of physics was first appointed to a hospital as distinct from a lecturer in physics to a medical school. And now about the country physicists are holding the hand of the clinician and enabling him to apply a new therapeutic substance with some measure of accuracy.

Thoracic Surgery

Writing about the year 1909 a well-known surgeon said that thoracic surgery was making great strides. He himself had excised a portion of a lung on account of a bronchiectatic cavity. There was much discussion about the means to be taken to avoid the dangers consequent on opening the pleural space and about the merits of plus or minus pressure. Another surgeon had operated for cancer, sarcoma, and for a lung cavity. Multiple resection of the ribs had been practised for tuberculosis. Much experimental work was being done on animals, but in this country complaint was made that the laws hindered investigation.

In the later stages of the Great War both physician and surgeon turned their efforts to improving the condition of those suffering from wounds of the chest; it cannot be said that the results were very great, but the experience gained in overcoming the problem seemed to promise an extension of thoracic surgery after peace had come. For a good many years progress was slow, but in recent times the words spoken by the surgeon in 1909 have really become true, and what has been accomplished constitutes perhaps the greatest advance of surgery in the present day.

The Sympathetic System: The Thyroid: Anaesthesia

The surgical attack on the sympathetic nervous system is older than some people would think. In a review of contemporary French surgery in 1914 it is stated that the solar plexus had been stretched for tabes and the nervous sheath stripped from an artery for Raynaud's disease; both were said to have been without result. Periarterial sympathectomy, however, gained ground, and has been fairly extensively practised for the pain and loss of function that follow a diminished blood supply. The investigations of an anatomist suggested an extension of the method by the excision of ganglia. It was hoped that this would abolish or lessen a spastic condition of the muscles. This hope has not been fulfilled, but the method, after adequate investigation of each case, is giving results in a variety of conditions in which the blood supply is deficient, also in congenital dilatation of the colon and in causalgia.

Although in the hands of some surgeons thyroidectomy for exophthalmic goitre was giving good results more than twenty years ago, the disease in this country was still in the hands of the physician, who seemed loath to hand over the case until the patient was in a condition which rendered operative intervention hazardous. Great stress was laid on the use of local infiltration anaesthesia at this time. Now, when the operation in the early stages has gained general acceptance, the improved outlook for the patient under a wise combination of medical and surgical treatment is one of the pleasing things in surgery.

The passing years have seen the introduction of many anaesthetics and of different ways of administering them: cocaine and its derivatives under many designations—local regional, paravertebral, spinal, and parasacral—also the newer anaesthetics used intravenously or by the mouth or rectum. In spite of all these, inhalation anaesthesia seems to hold its own. This may be put down in some degree to the development of the gas-and-oxygen method, but principally to the high technical knowledge and skill of our anaesthetists.

Apparatus

Much ingenious apparatus has been invented. Some has come to stay, even if a proportion will end its days high up on a shelf in the surgery. The artificial lighting of theatres has been brought to a high pitch of perfection; so much so that many prefer it to the light of day. The electric illumination of cavities has been vastly improved, as exemplified in the electric ophthalmoscope, which has brought the evasive disk into the vision of the tyro. The cystoscope, laryngoscope, and bronchoscope can now be described as almost easy to use. Diathermy in its various forms has found much favour with the surgeon, especially the diathermic knife, that is said to lessen the danger of dissemination and has certainly rendered the removal of oral growths easier and more bloodless.

Surgery and the War

Something must be said about the war, for it gave rise to a great surgical effort. It brought no great change in surgery, certainly less than that produced in medicine and pathology, using this last word in its big sense. It showed what can be done by well-directed organization, and may have brought a State medical service nearer than before. Its main effect was bringing together the laboratory and the clinical worker. It was remarkable to see the physiologist and the surgeon working together to solve the same problem—an example, perhaps, of the lion lying down with the lamb. This association was pleasant and fruitful while it lasted; but, alas! the physiologist has again retreated to the fortress of his laboratory. Before the war there were four main theories to account for surgical shock; during the war the chemical therapy of shock arose, and seemed for a time to offer a reasonable explanation under certain conditions. Recently facts have been put forward which seem to disprove what formerly seemed proved, and

the subject is more or less back in the condition that it was before 1914—another instance of that forward and backward movement that constitutes progress. The war familiarized British surgeons with blood transfusion. This procedure has now become a very useful part of our surgical armamentarium, made safe as it is by a knowledge of the blood groups. Gum saline was put forward as a substitute for blood transfusion and was extensively practised, with results that certainly satisfied those who used it: now for the time being it seems to be passing from popular favour.

Conclusion

If one tries to gauge the changes in surgery since the early years of the present century I think it is true to say that the period is marked more by an improvement in methods already in use than by any outstanding innovation. As to those in whose hands lies the art it can be said that the youthful surgeon is now better equipped to press forward, for he has a better comprehension of the ancillary sciences, in a knowledge of which lies our hope of progress.

PROGRESS IN OBSTETRICS AND GYNAECOLOGY DURING THE PAST TWENTY-FIVE YEARS

BY

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This brief retrospect calls for main characteristics rather than specific points, and the first to be mentioned, as the most impressive feature in the obstetrics of the last twenty-five years, is the change in the attitude of mind in which its practice is approached. Its outlook has moved from the pathological towards the physiological field. A like change has occurred throughout medicine, but obstetrics has, in its more limited sphere, been relatively more deeply permeated by the principles of constructive hygiene and preventive medicine.

Ante-natal Care

The spread of these principles throughout midwifery practice has been stimulated by the institution of ante-natal care. Once accepted as an integral part of obstetrics and its aims fully understood, it has tended to leaven the whole. Before its start, however, it was the custom in hospitals with an outdoor and indoor service to examine their patients in order to select those in whom abnormality was present, or suspected, for management in the hospital. The tendency, therefore, was to regard the new system as an extension of the old and concentrate on the detection and correction, when possible, of abnormalities during pregnancy and conditions that might cause complication in labour. The public and voluntary clinics independent of hospitals started as complementary to the older infant clinics, and followed their ideals by placing in the forefront the hygienic, educational, and social aspects. Thus the obstetrical work was more thorough in the one and the constructive hygiene more thorough in the other, but it was long ere the one learnt from the other.

By 1910 little more than a beginning had been made, but thereafter advance was rapid, and the stage reached in 1912–13 can be gathered from a report of an inspection of the London maternity hospitals and departments by Dr. Janet Lane-Claypon,[1] which states that most of them arrange for the medical examination and, if necessary, treatment of women in their first pregnancy or of multiparae with a history of difficult labour; in a few hospitals all women applying for aid were seen by a member of the medical staff. Clearly this was an elementary stage with little constructive hygiene. After the Maternity and Child Welfare Act of 1918 the number of clinics was greatly increased, and gradually it came to be more and more recognized that ante-natal care was primarily a system of constructive physiology for all patients, the discovery and remedying of abnormal conditions being secondary and required in but a small proportion of cases.

[1] Report of Chief Medical Officer to the Local Government Board for 1913-14, p. 31.

Steady progress has continued, but the possibilities of a rational application of physiological methods have not been fully explored. It is, for instance, but recently that it has been fully realized that disordered uterine function rather than mechanical difficulties is by far the commonest cause of delay in labour, and that efforts must be made by ante- and intra-natal management to promote and maintain normal uterine action.

Toxaemias of Pregnancy

The toxaemias of pregnancy still warrant their designation of "a disease of theories," and constructive physiology has its limitations where there is no adequate basis of knowledge of the conditions that favour and those that hinder normal function. Thus there is here no rational basis for constructive physiology, and reliance must be placed on the early discovery of the signs of disordered metabolism and restoration of the normal attempted by lowering metabolism by rest in bed and a low diet, in order to avoid the more serious consequences that may ensue. The failure of such measures entails termination of the pregnancy. The recognition of the liability to permanent renal damage and to recurrence or aggravation in subsequent pregnancies is an important advance. Active intervention in eclampsia has almost entirely given place to treatment on the lines of the Stroganoff or the Dublin school, though there still seems to be a place for Caesarean section in certain acute cases with clearly marked signs of impending eclampsia.

Management of Labour and Prevention of Puerperal Sepsis

The problem of adapting the methods of the operating theatre to the labour room or ward is by no means definitely settled. While there is a fairly general consensus of opinion among obstetricians in favour of an antiseptic and against an aseptic system, there is considerable variance of view between clinicians and laboratory workers regarding the most useful antiseptics for general use. The mercurial salts, which in the view of the former have stood the test of clinical experience, have recently been again denounced by chemists and pathologists as quickly rendered inert by admixture with the body fluids.

The most noteworthy contribution to our knowledge of the causation of puerperal sepsis during the period under review is the part played by spray from mouth and nose in infecting hands, instruments, and dressings, or even the vulval area. Conveyance by carriers of throat infections has been definitely proved, although an accurate assessment of the proportion of infections arising in this way is not yet possible. Some of the cases of infection after

natural expulsion and without internal examination may be thus explained, and face masks are now widely adopted to minimize this danger.

Management During the Puerperium

There is considerable scope for constructive methods to lessen the large amount of disability arising from incomplete involution and muscular laxity by physical treatment in the form of bed exercises to promote the recovery of the abdominal and pelvic floor musculature. The promotion of lactation in difficult cases is one of the triumphs of constructive physiology, and the restoration of the milk flow after weaning for six weeks or more is now possible by measures to stimulate secretion.

Post-natal care is usual in order to promote recovery of overstretched or injured muscles, maintain proper diet and hygiene for lactation, and treat any injuries, chronic infections, or other sequelae of child-bearing with a view to the prevention of later disability.

Stillbirth, Foetal Injuries, and Congenital Disease

An extensive investigation into the causes of dead birth and fatal birth-injuries was conducted under the Medical Research Council shortly after the war, and led to a clearer understanding of their production and nature. Attention has thus been drawn to the prevention of these obstetric disasters. By the intensive treatment of the syphilitic pregnant woman the high proportion of dead births in these cases has been greatly reduced, and if begun before the later months of pregnancy the birth of an unaffected child can reasonably be expected. Similarly, by active treatment of purulent discharge during pregnancy, careful prophylaxis of the infant's eyes during birth, and the notification and prompt treatment of all cases of discharge or inflammation of the eyes in the newborn, the incidence of ophthalmia neonatorum has been greatly reduced. It must be acknowledged, however, that the infantile mortality in the first month of life shows little reduction as compared with the marked diminution in that of the later months of the first year of life. Ante-natal care has not succeeded in lessening prematurity, the largest factor in the high neo-natal mortality.

Gynaecology

Representing the curative and reparative aspect, the gynaecological side of the subject is not affected to the same extent as the obstetrical by the principles of constructive hygiene and preventive medicine, but shows steady progress in technique and therapeusis.

The advances in radiotherapy are outstanding, both in malignant and in non-malignant conditions. Cancer of the cervix has proved particularly amenable to treatment by radium, which is gradually supplanting the radical operation as the results attained are at least equally good and without the risks and disabilities of so extensive an operation. Further, it offers a very considerable degree of relief in inoperable cases. The question of the best procedure in cases with glandular metastases is yet to be decided, and further experience must be awaited before the relative merits of radium applied to the pelvic glands through an abdominal incision and diffuse radiation through the abdominal wall by massive radium or deep *x* rays can be determined. The advances already made are a hopeful augury of further success.

In the treatment of metrorrhagia from chronic metritis or chronic subinvolution in patients near the age of the climacteric, radium has proved a most valuable and simple means of cure. For menorrhagia due to myomata *x* rays have also proved effective, and in properly selected cases should be preferred, the essential provisions being that there is no doubt of the nature of the tumour and the patient not of an age at which future child-bearing and the conservation of the uterus by myomectomy are possible. Cases of tumours above the size of a four and a half months pregnancy are less favourable, and by many would be excluded, owing to the risk of degenerative changes.

Another noteworthy advance is the inflation of the uterine tubes from below to test their permeability in cases of sterility. There is some evidence that the inflation *per se* increases the chances of conception. The injection of lipiodol followed by *x*-ray examination is another means to the same end, and has the additional advantage of indicating the site and degree of any obstruction present.

Clinical Applications of Advances in Science

Fresh knowledge of the physiology of the ovary, its relation to other endocrine glands and to the menstrual cycle, has resulted in the excretion of anterior pituitary hormones in the urine of pregnant women being used as a test of pregnancy. A positive result is obtained by the stimulation of the ovaries by these hormones after the injection of a few cubic centimetres of the urine into immature mice (Aschheim-Zondek) or rabbits (Friedman). Some fallacies from other causes have been recognized, but the proportion of error is small—2 or 3 per cent.

Since the introduction of the Potter-Bucky diaphragm, a greatly extended use of *x* rays in obstetrical diagnosis has become possible. Pregnancy can be diagnosed from the fourth month onwards, also whether entopic or ectopic, single or multiple ; foetal presentations and positions and certain foetal malformations can be recognized and the maternal pelvic capacity estimated.

Integration of Obstetrics and Gynaecology

The artificial divorce of obstetrics from gynaecology, which twenty-five years ago appeared a possibility on the narrow ground of convenience and differences in technique, faded as the infusion of the ideals of preventive medicine made clear the illogical separation of the physiological from the pathological, and the preventive from the remedial aspect. Provision for post-natal care definitely links together the two divisions of a subject that is scientifically and clinically one. The widespread feeling among those practising specially in this branch that gynaecology should not pass into the hands of those without a wide obstetrical experience was shown by the remarkable unanimity with which those not only in the British Isles but also in the Dominions threw in their lot with the British College of Obstetricians and Gynaecologists at its foundation in 1929. This college aspires to do for its branch of medicine what its older predecessors have done for theirs—to advance study and practice, maintain its standards, and be ready to advise and help in public matters of which it has expert knowledge.

Conclusion

Matters of public interest, such as maternal mortality and maternity services, are too far-reaching for survey here. There are too many factors impossible to evaluate, such, for instance, as the effect of the marked change in the attitude of mind of the whole community towards matters sexual and reproductive, so that the only guide is experience of actual working. A warning of the danger of preconceived ideas was given in the recent New York report, and another from a large English provincial centre, where the percentage of births in hospital has been steadily rising and the mortality rate increasing slightly also. But the plan of a direct attack upon the "black" areas is hopeful and the results from one are an indication that much may be done by an intensive effort over a wide front. Indeed, the need for experience of this kind suggests that plans for a maternity service had better await the results of local experiments.

SOME FACTORS IN THE CONTROL OF POLIOMYELITIS*

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(With Special Plate)

This country is particularly fortunate in that extensive epidemics of infantile paralysis have been extremely infrequent. Small outbreaks—frequently involving schools and institutions—have, however, been reported at various times, while an examination of the weekly notifications of infectious diseases indicates that sporadic cases are always present. It thus appears that poliomyelitis is a problem of some importance to the public health authorities.

In the event of an outbreak the physician is faced with three main problems:

1. The possibility of determining and limiting the extent of the outbreak—epidemiology.
2. The treatment of contacts, with regard both to general measures and to specific immunization—prophylaxis.
3. The value of specific serum as a therapeutic measure—therapy.

In order to appreciate the difficulties surmounting these questions it is essential to have some knowledge of the infecting agent and the manner in which the disease process develops. These points will be briefly considered before an attempt is made to answer the aforementioned questions.

Aetiology and Pathogenesis

The infecting agent is accepted by the majority of workers as a filterable virus. It is extremely minute, readily traversing bacterial filters, and invisible under the highest powers of the microscope. It cannot be cultivated by any of the standard bacteriological methods, and the only experimental animal in which the disease can be reproduced is the monkey.

The spontaneous disease is encountered only in man. The experimental disease in the monkey is, however, very similar to the fatal human form, and is readily produced by intracerebral, intraneural, or intrathecal inoculation of a potent virus. The disease process cannot be studied in man, as the essential lesions are confined to the central nervous system, and consequently this problem has been investigated in the experimental condition.

The spread of the virus was considered to take place by the perineural lymphatics, from the nasopharynx to the cerebro-spinal fluid, from which it reached the nerve cells. Hurst and I, in 1929, propounded the theory of axonal spread—namely, that the spread of the virus from the nasopharynx to the anterior horn cells of the cord occurred through the brain tissue by way of the axis cylinders. The axonal theory has since received much support from work carried out in America. Faber and Gerhardt have also drawn attention to the important observation that the terminal processes of the olfactory nerves—the olfactory hairs—lie exposed to the air in the mucous membrane of the upper part of the nasal cavity. Thus in a portion of the nasal cavity there is a direct gateway to the central nervous system for the virus. The virus is strictly neurotropic, and the essential lesions are confined to the central nervous system. These consist primarily of vacuolation and degeneration of the nerve cells, with a secondary mononuclear infiltration, perivascular, diffuse, and meningeal (see Fig. 1 on Special Plate).

The experimental condition almost invariably ends fatally, whereas in man the mortality rate, while subject to considerable variation, is definitely lower—5 to 20 per cent. While there is no doubt that the virulence and dosage of the virus are important factors in this distinction, another factor of great importance is the increased resistance offered to the virus by the human nerve cells as compared with those of the monkey.

Epidemiology

It is widely accepted at the present time that the portal of entry of the virus is the nasopharynx, and that the virus is conveyed from man to man by droplet infection. It has been stated that infection may be conveyed by drinking-water and milk, but conclusive proofs that such vehicles are of great importance have not been produced. Experimental results indicate very strongly that the portal of entry is in the nasopharynx, while the demonstration of the virus in the nasopharyngeal washings of cases and contacts provides important confirmatory evidence. From the data available it would appear that the virus on implantation in the nasopharynx gains entrance by the exposed olfactory hairs, and then passes along the olfactory nerve to the bulb, from which it disseminates through the mid-brain to the cord, attacking various nerve cells on its passage.

Paralysis, however, by no means invariably follows the implantation of the virus in the nasopharynx. It is highly probable that only a small percentage of infected individuals show muscular involvement. Statistical evidence and serological tests indicate that in the majority of cases subclinical infection follows—that is, the individual experiences no ill effect from the presence and activity of the virus, but apparently acquires an active immunity. Similar subclinical infections are quite common in other infectious diseases, as diphtheria and measles.

In other instances there is a marked reaction to the virus with the appearance of definite symptoms. These cases, found most commonly in children between the ages of 2 and 5 years, have been classified according to the nature of the clinical findings. It is sufficient to mention those most commonly encountered: (1) spinal form; (2) bulbar form; (3) abortive form.

In the first two forms muscular weakness and paralysis are found in the respective regions. In the last group are those cases showing pyrexia with vague nervous signs, as headache, and presenting definite changes in the cerebro-spinal fluid. These, however, recover without any obvious muscular involvement. This is probably a common sequence of events; Harmon (1934) collected figures illustrating the incidence of non-paralytic poliomyelitis, and found that approximately 70 per cent. of over 500 untreated cases showed no sign of paralysis. This is an important point in assessing the value of serum therapy on statistical lines, and a failure to appreciate it has probably been responsible for many of the extravagant claims for the value of serum therapy.

Two factors appear to be largely responsible for this variation in the individual response. The first is the virulence and dosage of the infecting virus. These doubtless vary considerably in the different epidemics. It is

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also highly probable that in the presence of an epidemic both the virulence and the dosage of the virus are likely to be greater than in inter-epidemic periods. The presence of different strains of virus has been suggested, but the evidence put forward to support this view is far from conclusive. The second factor in the individual variation of the disease is the resistance offered by the individual. The necessity of approximating the virus to the nervous system in order to produce infection has already been emphasized.

Once within the nervous system, the struggle for supremacy between the virus and the nerve cells takes place. The incubation period is uncertain, though it is probably longer than many consider. I suggest seven to ten days as the probable time, as the incubation period represents the time taken by the virus after implantation in the nasopharynx in reaching susceptible nerve cells. The preparalytic stage appears to be the phase at which the cells and the virus are battling for supremacy. Experimental evidence indicates that in the first instance only a proportion of the nerve cells of an infected region are attacked, and if these are able to withstand the attack of the virus recovery follows without muscular involvement. If, however, the virus is more active, more nerve cells will be attacked, and some will be permanently damaged. The extent of the damage will determine the degree of residual paralysis. In other cases, where the virus is particularly active, the disease progresses, the medulla is involved, and death supervenes.

The capacity for recovery exercised by the nerve cells is illustrated in Fig. 2 (see Special Plate).

This is a cross-section of the cervical enlargement of a monkey killed thirty-five days after the appearance of symptoms. This animal was one of the few that recovered after the inoculation of a potent virus ; eight days after intracerebral inoculation it exhibited a marked paresis of the right lower limb ; twenty-four hours later both lower limbs and the eyelids showed marked paresis ; on the twelfth day the upper limbs became involved—the right arm was completely paralysed, while the left showed paresis. The animal was now prostrate, but instead of taking the usual course recovery took place, slow at first, but after seven to ten days a wide range of movement was obtained in all limbs except the right arm. This paralysis persisted in spite of treatment with ultra-violet light and massage. In order to obtain a picture of the cord in cases of recovery the animal was etherized and a detailed histological examination was carried out. In this section, which is at the segment corresponding to the paralysis, a marked reduction in the number of nerve cells on the paralysed side is observed ; on the other side a more or less normal appearance is found.

In fatal cases the characteristic lesions are found in the cord, and virus can readily be demonstrated in the spinal cord, with less frequency in the nasopharyngeal washings, and sometimes in the brain.

We must next examine the reaction of the community to infection with the virus of poliomyelitis. The disease is usually encountered in children of school age, although in outbreaks occurring in rural districts adults are frequently involved. The explanation offered to account for the comparative immunity of adults is that in crowded or urban communities there is a greater chance of dissemination of the virus. Adults are therefore more likely to possess immunity following either previous subclinical infection or a definite attack. Young infants are not so frequently involved, as here the chance of infection is less, and in the first six months of life passive immunity is frequently present, due to the transplacental passage of maternal antibodies. In rural communities the possibility of a previous infection is reduced, and the individuals are more exposed to infection in the presence of an epidemic. People of all ages are also liable to infection in these districts.

In the event of an epidemic it is important to realize that only a small proportion of individuals harbouring the virus exhibit muscular impairment. Many experience abortive attacks—these, in the absence of frank cases of poliomyelitis, are extremely difficult to diagnose—and a number have merely subclinical infection. All these individuals are, however, carriers of the virus, and a potential danger to the community. Another point is that as the incubation period is comparatively long, many individuals will therefore have been disseminating the virus for days before the condition is notified. Attention should be paid to these points in dealing with an outbreak in a closed community such as a boarding school. The closure of the school and the subsequent dispersal of the scholars will lead to wide dissemination of the virus.

Prophylaxis

In the event of an epidemic prophylactic measures are of great importance ; these may be conveniently considered as general and specific.

The general measures adopted should be first to *isolate all definite or suspicious cases.* A control of all contacts is desirable, and it is especially important to emphasize that contact with children should be avoided. The use of gargles has not been generally advocated. The main reason for this is based on a small experiment, which indicated that the nasopharyngeal mucosa possessed viricidal activity, and that this property was destroyed by antiseptics. Unfortunately this question has not been examined in detail, and as the virus has recently been demonstrated in nasopharyngeal washings of cases and contacts, this suggested viricidal activity does not appear to be very marked. A point not previously mentioned is that gargles would spread the virus in the nasopharynx, and so increase the possibility of it reaching the olfactory hairs which lie exposed in the upper part of the mucosa. Thus ordinary gargles cannot be recommended, but the *use of oxidizing agents,* such as hydrogen peroxide and potassium permanganate, appears advisable, for these are definitely injurious to the virus.

Specific measures involve the immunization of the individuals, either actively or passively. *Active immunization,* while highly satisfactory in the case of variola and rabies, is at the present time of no practical value in the prophylaxis of poliomyelitis. Killed virus has proved useless, and while immunity can be produced by the use of living virus, the difficulty of obtaining a dose which will invariably immunize without carrying any risk of producing the severe symptoms of the disease has not yet been overcome. This question has recently been receiving much attention, but although an advance has been made there is no doubt that the matter is still in the experimental stages.

Passive immunization by the intramuscular inoculation of a large dose of immune serum was advocated some time ago by Flexner. This procedure has since been adopted in combating several outbreaks, and the results appear to have been highly satisfactory. A statistical representation is of doubtful value, but several observers have reported a much greater incidence of cases in contacts not receiving serum than in those receiving it. At the present time the use of anti-poliomyelitis horse serum is recommended. This serum is readily obtained ; the quantities available are thus greater than in the case of convalescent serum, and also its antiviral content is frequently higher than that of convalescent serum. It is, however, important to realize that the effects of passive immunization only last a few weeks, and should the epidemic persist a second inoculation after five to six weeks — following previous desensitization — should be carried out.

Therapy

Many methods have been suggested to arrest and relieve paralysis: these again are best considered as general and specific.

General measures, such as adopted in the case of other infectious diseases—namely, rest in bed and attention to the diet—are very important therapeutic procedures, and should be enforced rigorously without delay. Numerous other measures have been tried, but the only one having definite favourable effects is *spinal drainage*. The cerebro-spinal fluid is usually under pressure, and shows a marked pleocytosis; the exudate in the cord tends to pass from the nervous tissue into the spinal fluid. Consequently, by repeated drainage it might be possible to alleviate the increased pressure in the cord by removing some of the infiltrating cells. This secondary infiltration, both perivascular and diffuse, is frequently well marked, and no doubt tends to exaggerate the symptoms.

Much controversy has arisen concerning the value of *antiviral sera* in the treatment of poliomyelitis. The use of convalescent serum in its treatment was first recommended by Netter in 1911. This was suggested by the fact that convalescent serum had been found, by means of the neutralization test, to possess antiviral bodies. (In this test an active virus is left in contact with the serum for a few hours, after which the mixture is inoculated intracerebrally into a monkey. If antiviral bodies are present the animal remains quite well; if not, experimental poliomyelitis develops. A control test in which saline is substituted for the serum should always be carried out to check the potency of the virus.)

It thus appeared that an extremely valuable therapeutic agent was available. Unfortunately, many uncontrolled tests were made and untested serum was employed, and it is only in recent years that any useful contributions on the value of the serum have been made. The results obtained in the last few years have, however, been far from consistent. Some workers have obtained highly satisfactory results, while others have found no improvement to follow the administration of serum. This divergence of results is illustrated in the table.

Collected Results of Serum Therapy
(Convalescent serum given in the early stages)

Observers	Number Examined	Died	Marked Paralysis in Survivors
		Per cent	Per cent.
Aycock and colleagues, 1928, U.S.A.:			
Untreated	297	18.5	30.3
Treated	116	6.0	3.7
McNamara, 1930, Australia:			
Untreated	151	14	58.2
Treated	76	0	5.2
Park and colleagues, 1931, U.S.A.:			
Group I {Untreated	306	1	12.4
Group I {Treated	93	3	2
Group II {Untreated	100	2	7
Group II {Treated	404	4	13

The Use of Serum

The question of serum therapy is obviously a matter of some complexity. In order to appreciate the difficulties of the question several points must be considered. The virus reaches the nervous tissue by way of the olfactory hairs in the nasopharynx, and thereafter is well protected from the serum; in many cases recovery takes place without paralysis (70 per cent., vide supra); epidemics vary in severity. These facts interfere considerably with the interpretation of the various statistical records of serum therapy. We have mentioned that in the pre-paralytic stage there was a struggle for supremacy between the nerve cells and the virus, that in the early stages only a proportion of the nerve cells in a given region are involved, and that some of the cells attacked may recover. The preparalytic phase, therefore, is obviously the optimum time to administer serum, as it is possible at this stage to reach certain cells before the virus, and in some cases the early administration of serum might throw the scales in favour of the cells. When, however, the virus held the upper hand serum might tend to limit the spread of the disease process to other regions of the cord, but it would have little effect on the primary focus. In the case of a heavy infection there appears to be little hope of benefit from the serum.

Therapeutic applications of serum in the experimental disease have proved useless. Thus dramatic recovery following the administration of serum is not likely to be obtained except probably in a few cases, some of which might equally have recovered without serum. As, however, other measures have not proved satisfactory—in fact, the majority have proved useless—I suggest that serum therapy should be tried whenever cases are diagnosed in the preparalytic phase. It is, however, important to emphasize that the serum should be given as early as possible—in the preparalytic stages—and that the statistical results may not be convincing. Harmon (1934), in an extensive review of the question of serum therapy, stated:

> "Notwithstanding the total failure of statistical presentations to favour certain types of serum, clinical observations that have been almost universally made of rapid symptomatic response to the administration of serum by an immediate drop in temperature and marked improvement in symptoms cannot be totally disregarded."

It is important now to mention the types of serum available for the route of administration. Many sera have been suggested, but no serum should be employed which does not contain antiviral bodies. These bodies are demonstrated by the neutralization test in the monkey, and are usually found in convalescent serum, and also in the serum of many adults. In testing sera, in order to save expense, samples are pooled before examination. Horse serum, prepared by a long series of intramuscular injections of the virus, can also be used. As horses vary considerably in the ability to produce antibodies, careful titration experiments are necessary.

Various routes have been employed by different workers for the administration of the serum—intrathecal, intravenous, and intramuscular, either alone or in combination. It appears, however, that the results obtained after intravenous and intramuscular inoculation have been as satisfactory as those obtained by administration by other routes. These routes are also the less likely to give rise to reactions than the intrathecal. A study of the pathology of the condition also favours these routes. The virus is confined to the nervous tissue, and it is the aim to approximate the antibodies to the nerve cells. In the case of the cerebro-spinal fluid the flow is from the nerve tissue to the fluid, and, again, the virus has never been demonstrated in the fluid itself. These points do not offer support for the intrathecal injection of the serum.

Following intravenous or intramuscular inoculation the serum passes to the blood stream, and probably escapes into the nervous tissue by reason of the increased permeability of the vessels of the affected region. It thus appears advisable to give massive doses of serum by the intravenous or intramuscular route.

Conclusion

The sporadic nature of the disease in this country suggests a wide dissemination of a virus of limited virulence, from which it follows that the majority of the adult population have acquired some immunity. This tends to contraindicate the appearance of an extensive epidemic. Small outbreaks in schools or institutions where children are collected are, however, always liable to appear. In handling these the various points I have mentioned should be enforced—namely, isolation of all cases or suspected cases, prophylactic inoculation of serum, and gargles of oxidizing substances for the contacts. In the treatment of cases diagnosed in the early stages serum therapy should be commenced without delay. In view of the crippling nature of the disease, although many cases will evidence little response, an improvement in a few cases is surely sufficient justification for serum therapy.

CORNEAL GRAFTS

WITH THE REPORT OF A CASE

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(With Special Plate)

Where blindness is entirely due to corneal opacity it has been proved that the operation of corneal grafting is of great value, and the recent investigations of Tudor Thomas have revived interest in a branch of surgery which was first successfully practised by von Hippel in 1888. From time to time the technique of such grafting has varied both in the shape of the graft and in the method of fixation.

On the one hand, Elschnig uses a circular trephine, whereas Castroviejo employs a twin-bladed knife which cuts a rectangular graft, and this he retains in position by means of a conjunctival flap. Tudor Thomas, basing his technique on several years of animal experimentation, obtains the graft by a circular trephine of 4 to 6 mm. in diameter, arguing that this is much more likely to "take" than that which has corners or sharp angles. He retains the graft in position by overlay sutures stitched into the cornea on either side of the graft, and lays great stress on the necessity of fashioning a shelving bed for the reception of the graft. In order to allow of subsequent swelling of the graft, this is cut smaller than the bed into which it is to be placed, and in transference the graft is protected by means of sterile olive oil. In the following case an endeavour was made to simplify technique and to combine the trephine method with a complete conjunctival flap, such as is occasionally employed for the protection of large gaping corneal wounds.

Several criteria must be satisfied if the graft is to be successful; they include complete sterility of the conjunctival sac, accurate projection of light, a pupillary aperture neither occluded nor secluded, and transparency of all ocular media other than that of the cornea. The tension of the eye must be within normal limits, and there must be no active inflammation. Cases which fulfil such conditions are: corneal opacification due to chemical burns, large healed ulcers, and interstitial keratitis which has been quiet for at least twelve months. The scars of old perforating ulcers in which the iris is adherent are not suitable, since, owing to this adhesion, there is a predisposition to vascularity, and consequent opacification of the graft. In our opinion the degree of vision should not be better than hand movements to justify what is still experimental surgery.

The following case is that of a woman who for many years had kerato-iritis of both eyes. Secondary glaucoma supervened in the right eye, which was removed, and complete opacification of the remaining eye had reduced the vision to perception of light. A corneal graft restored the vision to 6/24, and allowed her to read ordinary manuscript.

Case Record

The patient was a married woman, aged 48. She attended the Royal Eye Hospital in July, 1920, and a diagnosis of tuberculous keratitis of the right eye was made. R.V., perception of light. The left eye at this time had fine corneal nebulae: L.V., 6/18. The usual local remedies, together with a course of tuberculin injections, were employed, and her attendance ceased in 1922.

In 1923 the vision was the same in each eye, and in 1924 the right eye was removed on account of secondary glaucoma and an absence of perception of light. In April, 1930, the left eye developed acute kerato-iritis, which subsided after treatment, leaving a vision of 6/60; at this time unit investigation was negative. In October, 1933, the vision was reduced to perception of light, and a blind certificate was issued.

In November, 1934, the patient came under our care, and it was decided to attempt keratoplasty. A complete investigation was carried out, and was negative apart from an increase of the blood sedimentation rate and evidence of old tuberculous cervical adenitis. The eye at this time showed grey infiltration of the whole of the cornea, with localized fasciculi of superficial conjunctival vessels and occasional evidence of deep vascular infiltration. It was not possible to discern the position of the pupil or iris pattern details either by diaphanoscopy or by direct slit-lamp investigation. The cornea was in the early stages of keratoglobus. Projection of light was accurate, and tension was 30 mm. Schiötz.

Preliminary treatment began with four-hourly irrigations of oxycyanide of mercury lotion 1 in 8,000, and local ultra-violet radiation of three minutes' duration by full mercury vapour spectrum of the conjunctival fornices and entire cornea. Subsequent cultures were negative on three occasions. Miosis was obtained by constant instillation of guttae eserine sulph., 1/2 per cent. A donor became available in a case where a young man had sustained a penetrating injury of the upper lid and globe, which left the cornea intact but which disintegrated the posterior half of the eye.

OPERATION

The preparation of the site in the host and the enucleation of the donor's eye were commenced simultaneously. In the host a complete conjunctival flap was prepared circumscribing the limbus, and being separated well back to the equator of the globe. A purse-string suture, No. 1 black silk, was inserted in such a way as to render the aperture eccentric when tightened. Under 4 per cent. cocaine anaesthesia and with seventh nerve novocain block (O'Brien) a 4 mm. circular bed was delineated slightly to the inner side of the centre of the cornea, so as to bring the proposed site of the graft below the margin of the upper lid. When the section had involved half the corneal thickness, the trephine was removed and the bed completed by scissors in such a manner as to produce a shelving edge towards the centre of the aperture. During this period the eye was constantly irrigated by normal saline at body temperature. When the corneal circle was removed the pupil could be seen firmly contracted, the centre of which coincided with the centre of the graft. This had been obtained purely by guesswork: Tudor Thomas has since elaborated a technique which enables the coincidence of the centre of the graft and the centre of the pupil to be accurately

estimated. Under constant saline irrigation a corresponding graft was cut with the same trephine and scissors through the cornea of the enucleated eye, which was held in Tudor Thomas's apparatus during this manœuvre. The graft was transferred to the bed in a lens spoon, and manœuvred into position by an iris repositor. At the same time gradual tension was put on the purse-string suture, and eventually this was tied so that the graft was maintained in position and entirely covered by conjunctiva No part of the suture touched the graft, and no corneal stitches were used. Eserine was instilled, a retention suture fixed the upper lid to the cheek, and ordinary cataract routine was instituted.

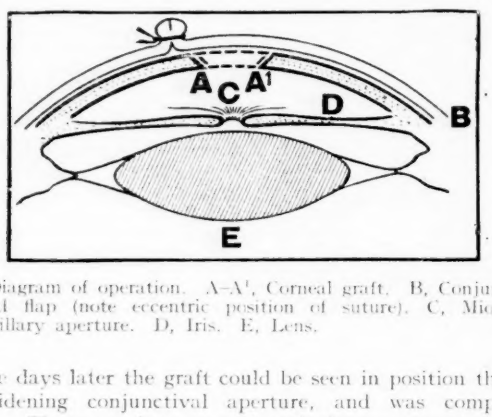

Diagram of operation. A–A¹, Corneal graft. B, Conjunctival flap (note eccentric position of suture). C, Miotic pupillary aperture. D, Iris. E, Lens.

Three days later the graft could be seen in position through the widening conjunctival aperture, and was completely opaque. There was intense conjunctival engorgement, but no pain. At the end of the first week the conjunctival aperture had increased, and the graft was seen to be clear and to have the brightness of normal corneal epithelium. On the tenth day the stitch was removed, and thereafter dressings were continued until the end of a fortnight. Three weeks after the operation the appearance of the grafted eye was as in Fig. 2 (Special Plate). The central black area is the gap through the posterior layers of the graft, surrounded by a shelf, which in this case was slightly too excessive, and which has resulted in some limitation of the field. By slit-lamp examination the iris details can now be seen, and the pupil is found to be fixed by posterior synechiae ; there has been an improvement in the opacity of the cornea outside the graft. Unaided vision at this time was 2/60. One month after the operation the unaided vision was 6/60, and the patient was able to walk about the ward, although on account of her limited field she had to exercise great care.

On January 7th, 1935, unaided vision was 6/36, and with the telescopic glasses this is improved to 6/24 and J.6. Judged by the rate at which the graft has cleared there may yet be further improvement. The patient is now able to read ordinary correspondence, and spends most of her time watching traffic through the hospital windows. It is possible that she may be removed from the blind register.

Postscript : March, 1935.—The vision is 6/24 and J.6: the patient now walks abroad unaided.

Commentary

In our opinion the important features of this technique lie in the use of a complete conjunctival flap with constant saline irrigation. It would have been better in this case to have used a larger graft or to have made the shelving edge less, although the stenopaeic nature of the aperture undoubtedly improves her vision ; in future cases we propose to adopt this technique

We should like to thank Dr. Rushton of the Royal Eye Hospital for the photographs.

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COLLOID CYST OF THIRD VENTRICLE OF THE BRAIN

REPORT OF A CASE OPERATED ON, WITH RECOVERY

BY

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(With Special Plate)

In the literature will be found a considerable series of reports of a peculiar cystic tumour of the third ventricle of the brain, with notes reflecting the interest which the discovery of this rare type of intracranial new growth seems invariably to have aroused in its finders. Until the appearance in 1933 of Dandy's monograph on *Benign Tumours in the Third Ventricle of the Brain*[1] such references were to findings at necropsy, and the publication of his series of five cases operated on with four recoveries suggested that neuro-surgeons in general had perhaps not been sufficiently alive to the importance of being on the look out for this rare but eminently operable variety of tumour.

In the spring of last year we were fresh from the study of Dandy's book when a case of brain tumour presented itself, unlocalizable by ordinary clinical methods, and having as its most characteristic feature the pronounced intermittency of its symptomatology. In the circumstances it was inevitable that the possibility of this being a case of third ventricle tumour should occur at once, and, by one of those coincidences which do happen sometimes, our suspicions were confirmed by ventriculography ; operation followed, and a colloid cyst was successfully removed from the patient's third ventricle. With the exception of Dandy's four cases noted above, a study of the literature has failed to discover any reference to the operative removal, with recovery, of a tumour of this type, and our case would seem to be the first successful operation of the kind to be recorded in this country.

Patient's Previous History

The patient, a moulder aged 34, was admitted to the Victoria Infirmary on April 25th, 1934, having been sent in by Dr. Bell of Falkirk Infirmary with a diagnosis of brain tumour. About two and a half years before admission he began to suffer attacks of pain ; these were distributed generally over the cranium, but tended to be most severe in the right side of the head. During the height of an attack there was frequently marked pain in the occipital region. These attacks, the onset of which was not associated with any special time of day or with any very obvious exciting cause, had at first a duration of a few hours. At first, too, a period of months used to elapse between the paroxysms, but as time went on the free intervals gradually shortened, until finally, just before admission, there was only a week or two of freedom, while the attacks themselves were of longer duration and were more severe.

A typical severe attack was characterized by a gradually increasing headache, which reached at length an extreme degree of severity, and on four occasions—the first time early in January, 1934—a period of unconsciousness of a few minutes' duration occurred at the height of the paroxysm. For the past six weeks, too, there had been vomiting on several occasions without any relief to the pain, and the patient's wife was emphatic in her statement that after these severe seizures there was complete failure of memory of the past attack, so that the patient himself had no recollection whatever of its characters. For three weeks before admission it had been noted that giddiness was present during the paroxysms. Even during the early mild seizures there was

a very noticeable deterioration of vision, and this became aggravated later, so that the patient was sometimes almost blind; apart from these transient periods of defective vision, however, the eyesight had gradually failed during the past nine months.

Condition on Examination

Examination showed him to be a strong, healthy-looking individual, clear and intelligent mentally; during his fourteen days' stay in hospital prior to operation he had none of his severe attacks of pain, but complained of constant dull frontal headache. Apart from a questionable defect in the sense of smell (he appreciated, but could not recognize odours) investigation of the cranial nerves was, with the exception of the eye examination, entirely negative. Vision in either eye was 3.5/6, while ophthalmoscopic examination showed a papilloedema of 4 D in both eyes, with two small haemorrhages on the right optic disk. The visual fields were normal. A detailed investigation of the motor and sensory functions, and of reflexes, station, gait, and co-ordination, failed to elicit anything abnormal. The Wassermann reaction of the blood was negative; *x*-ray examination of the skull showed no abnormality.

Ventriculography and Operation

On May 9th, 1934, under avertin anaesthesia with local infiltration with novocain, ventriculography was carried out and was followed immediately by operation. Both lateral ventricles were tapped. There was a moderate increase in the cerebro-spinal fluid pressure, the fluid itself being clear. Phenylsulphonephthalein solution, 1 c.cm., was injected into the right lateral ventricle; almost immediately the dye appeared in the fluid from the left ventricle. Then 120 c.cm. of cerebro-spinal fluid was withdrawn and replaced by a slightly smaller volume of oxygen. The aspiration of fluid was continued until no more could be obtained, in order to secure, as nearly as possible, a complete substitution of gas for cerebro-spinal fluid. (This, as is well known, is a most important point in the diagnosis of a case of this type. In an imperfectly filled ventricular system and with the standard positions of the head, an apparent filling defect of the third ventricle may be due entirely to the absence of gas within its cavity.)

The *x*-ray films showed a pronounced degree of hydrocephalic expansion of both lateral ventricles; no third ventricle was visible. An interesting finding was the definite bulging of the septum lucidum to the left of the midline in a well-centred antero-posterior film. The appearances suggested a tumour of the third ventricle, and it was thought that the entire absence of symptoms referable to involvement of the mid-brain suggested a lesion in its anterior portion rather than one more posteriorly.

At operation a right frontal bone flap was turned down, and this was followed by the reflection of a dural flap with its base to the longitudinal sinus. After pressure had been reduced by tapping the anterior horn of the ventricle, a portion of frontal lobe well forward of the motor area was excised with the diathermy knife. This gave a free opening into the widely dilated ventricle, within which could be seen the choroid plexus extending forward to the foramen of Monro. This latter was scarcely, if at all, dilated, but within its lumen could be seen a solid grey structure.

With a small knife an incision of the fornix was made from the edge of the foramen of Monro forwards; this opened up the anterior part of the third ventricle and showed the above-noted greyish structure to be the wall of a tumour. Puncture demonstrated its cystic character and allowed a small amount of stringy mucoid material to escape. The thin wall of the cyst was then seized with forceps and, after a good deal of difficulty owing to friability, was removed completely in one piece.

It was then possible to look through the widened foramen of Monro and inspect the clean, white, and apparently quite normal walls of the third ventricle. A small tag of tissue was adherent to the anterior extremity of the choroid plexus. This was removed after placing a silver clip on the plexus, a manœuvre which started some bleeding from a small vein just lateral to this point; after a little difficulty this was controlled by electro-coagulation. The ventricular system was quite dry when finally the dura was replaced and closed over the gap in the frontal lobe. The operation was completed by the usual closure of bone flap and scalp.

The specimen after removal agreed very closely in appearance with that of Case I in Dandy's series. The tumour was about the size of a hazel-nut, and showed a small area of choroid plexus tissue attached to the cyst wall.

Microscopical Examination of Tumour

Microscopical examination of the choroid plexus structure reveals a core of loose fibrous tissue in which are numerous congested and dilated vessels—some showing thickening and hyaline degeneration of their walls, while others are thin-walled and resembling sinusoids. Several concentric bodies are present. The cyst, where it is attached to the choroid plexus, has a covering of epithelium, which differs from that of the normal choroid in that instead of a single layer of flattened cells there is an irregular multi-layering of cells, having the appearance of actively secreting cells, almost goblet-cell in type. In places where the heaping up is marked, distended cells can be seen being thrown off into the cystic cavity. This is lined by a single layer of these cells set directly in a thin fibrous wall without basement membrane. The content of the cyst is a colloid structureless material staining with the acid dye. An occasional cell is seen in the colloid—a polymorphonuclear leucocyte and a mononuclear leucocyte. In no part of the section could the presence of cilia be determined in the cells. In Dandy's cases the presence of cilia has been recorded.

As to the nature of the origin of such cysts one may consider that they may arise from the ordinary choroid plexus of the third ventricle, but at the same time the possibility of their origin from a vestigial structure, known as the paraphysis, and which is seen in the early embryo, especially that of the lower vertebrates, has to be considered. This structure arises from the roof of the telencephalon, and presents itself as a median irregular pouching originally communicating with the third ventricle, but in its later development through vascularization becoming very similar to the choroid plexus formation. The absence of lesions at necropsy which could be associated with such a structure in the third ventricle is sufficient grounds for questioning this interpretation.

Post-operative Progress

The post-operative course, though devoid of serious complications, showed several abrupt elevations of temperature, the highest of which (102.4°) took place on the fourth day. With this temperature the pulse rate was 90 per minute, and the patient complained of severe headache; pressure from hypersecretion or defective circulation of cerebro-spinal fluid was suggested, and the question of tapping the ventricles was considered, but the condition subsided quickly before this was carried out. After the sixth day the temperature remained normal.

For the two weeks following operation there was a marked disturbance of the patient's mental state; he was confused, and showed an entire loss of memory for events taking place after operation. This cleared abruptly about the fourteenth day, and thereafter his mental state appeared normal. He was discharged from hospital in excellent condition on June 2nd, and started work again as a moulder in October. He returned for examination on February 9th, and reported the occurrence of two epileptiform seizures, the first in December, the second on January 21st. These would seem to have been generalized, and were associated with complete loss of consciousness; there was no aura. The patient was otherwise in excellent mental and physical health, without any headache or other sign of increased intracranial pressure; his optic disks showed post-neuritic atrophy.

Some Interesting Features

It is not our purpose in this short paper to give a detailed description of the clinical manifestations of the type of lesion under discussion. Dandy's account is indeed so complete as to make this quite superfluous. In the remarks which follow we have discussed a few

only of the more interesting features which our case presents. A perusal of the literature makes one regard it as very typical in its symptomatology.

The characteristic intermittency of the symptoms is well exemplified. To quote Dandy[1]: "Intermittent headaches are unquestionably of mechanical origin. They indicate a ball-valve obstruction to the outflow of fluid from some part of the ventricular system. The fluid increases until the pressure reaches a stage when the ventricular channel, wherever it may be, is again opened, thus permitting the excess of fluid to pass the obstruction. Such periodicity continues, usually with gradually shortening intervals, until eventually the obstruction becomes complete." In three out of Dandy's five cases there were present, in addition, curious attacks, mentioned also by some other writers, in which headache, dimness of vision, or giddiness was brought on by certain changes in the position of the head. These, however, were entirely absent in our patient.

It should be noted that the fatal ending in this condition occurs in coma during one of the attacks of severe headache. Rinder and Cannon[2] thus describe the terminal stage:

"The fatal ending began on the afternoon of November 27th, 1929. The patient stopped work because of a severe headache. At home she began to have attacks of vomiting, which increased until they became projectile. There was excruciating pain over the right eye and in the temporal region, and she complained of dimness of vision. She refused to call a physician, as she believed the attack would stop as had the previous ones. At 3 a.m. on November 28th she was found lying on the floor in a coma; she was cyanotic, and breathed with difficulty. Death ensued shortly thereafter."

From the history and neurological examination the diagnosis of these lesions can at best be but surmised. Ventriculography is required. Our case exemplifies very well the fallacy of relying on ventricular estimation and dye injection. It will be noted that the dye passed readily across from one lateral ventricle to the other in the presence of what was apparently a complete obstruction of both foramina of Monro. At operation the reason for this was obvious, in the finding of a large perforation of the septum lucidum, easily visible on inspection of the interior of the right lateral ventricle. The occurrence of this secondary perforation of the septum lucidum in cases of chronic hydrocephalus, with the fallacious diagnosis of an obstruction in the cerebro-spinal fluid pathways below the third ventricle to which it may give rise, should be emphasized. It is by no means uncommon, and several instances of the kind have lately presented themselves.

The recent occurrence in our patient of two epileptiform fits is to be regarded as a sequel to the transcortical incision into his lateral ventricle. Such seizures may occur after any brain operation in which the integrity of the leptomeninges is impaired, and come under the heading of traumatic epilepsy. According to Dandy they are seldom frequent, and tend to become less so over a period of time.[3]

We have to acknowledge our indebtedness to a number of individuals for their co-operation in the investigation of this case. Our thanks are due to Dr. Bell of Falkirk for his records of the patient while in Falkirk Infirmary, and to Dr. Conway and Dr. Walker for their ophthalmological and radiological examination while in the Victoria Infirmary. Lastly, on the pathological side, we owe a debt of gratitude to Dr. John Anderson, director of the clinical laboratory of the Victoria Infirmary, for a great deal of assistance and advice.

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FUNNEL-CHEST AND PULMONARY TUBERCULOSIS

BY

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(*With Special Plate*)

Funnel-chest ("Trichterbrust") is a depression of the lower part of the sternum, which is usually due to a congenital anomaly. The chief clinical symptoms are disturbances in the functions of the heart, which have been described in detail by Ebstein, Barié, Groedel, von Pohl, and Carr. Less attention has been paid to the fact that funnel-chest can be combined with pulmonary tuberculosis, as seen, for example, in the cases of Ebstein, Curschmann, Versé, and R. von Pohl. The question arises whether a pathogenic part is played by the funnel-chest in the development of pulmonary tuberculosis. The following case seems to be a contribution to the solution of this problem.

Case Record

Male, aged 30 years. Increasing cyanosis during the last eight years (1926-34); occasional small pulmonary haemorrhages since 1926. Father known to have suffered from tuberculosis forty years before the patient's admission to hospital (1926). Patient died on April 1st, 1934, with increased symptoms of cardiac insufficiency, especially dyspnoea and cyanosis. Tubercle bacilli were not found in the sputum until 1931, and never again until 1934.

POST-MORTEM EXAMINATION

Corpus sterni 10 cm. in length, with a depression 7 × 7 cm. from the third rib downwards (Fig. 1 on Plate). The area of depression included the cartilages of the ribs on the right side, the departure from the normal contour (the depth of the depression) being 3 cm. The manubrium of the sternum was 5 cm. long, the length of the whole sternum being 18 cm.

The heart was enlarged, particularly in its right section. The anterior surface of the enlarged right ventricle showed a depression of 5 × 2.5 cm. in size, corresponding to the depression of the sternum (Fig. 2). The pericardiac surface of the margins of the depression was thickened by scarring. When opened the right ventricle was seen to be bipartite, the inlet part comprising the right venous ostium being the larger, whereas the outlet part, with the right arterial ostium, was narrow, with smooth valves and vessels (Fig. 3). Beneath the right posterior semilunar valve of the pulmonary artery was a deep pocket in the muscular substance. The descending anterior branch of the left coronary artery diverged from the trunk of the aorta 2 cm. above the semilunar valves. The cardiac muscle in the region of the depression was to a great extent replaced by fibrotic tissue (histological examination).

Lungs.—Left upper lobe showed a notch like a lobus azygos. Three tuberculous foci were observed in the right upper lobe; the first, in the region of the ramus apicalis, and the second, in that of the ramus subapicalis of the dorsal bronchus, were the size of a hazel-nut, while the third, in the region of the ramus horizontalis, was the size of a walnut. All were liquefied. There were some smaller nodules due to aspiration in the lower lobes, and extreme blood stasis in all organs.

Discussion

The depth of the depression of the sternum, typical of funnel-chest, in the present instance did not reach the extreme figures of some of the cases described. The depression, which included the cartilages of the right ribs, was neither symmetrical nor confined to the body of the sternum. The heart was not displaced towards the left side to the extreme degree that has sometimes been observed, but it showed a peculiarity which seems to me of greatest importance, and which hitherto has not been noted as occurring in such a definite and marked manner—

namely, the depression mark on the anterior surface of the right ventricle corresponding to the depression of the sternum. In the case under consideration the depression of the heart led to a constriction of the outlet of the right ventricle, and was responsible for the symptoms of cardiac insufficiency, which gradually increased and eventually caused death. Apparently functional conditions resembled those of congenital stenosis of the right arterial ostium.

Depressions in the heart wall, although neither so deep nor so extensive, have been mentioned in cases of funnel-chest by Bien, Fruehwald, and Henschen and Naegeli. Von Pohl, after careful radiological examination of the chest, came to the conclusion that the antero-posterior diameter of the heart in the region of the funnel must have been considerably diminished by the indentation of the heart in front corresponding to the in-bowing of the anterior thoracic wall.

If the functional conditions were similar to those of congenital stenosis of the pulmonary artery a relationship between the deformity of the heart and the pulmonary tuberculosis is obvious. The cases of von Pohl, being of tuberculosis, demonstrate this relationship. Fruehwald did not mention the condition of the lungs in his case of pericarditis. The absence of pulmonary tuberculosis in the case described by Bien may be explained by the smaller extent of the depression and its situation in the anterior wall of the heart, involving mainly the right atrium and thereby differing from the present case and presumably from those observed by von Pohl.

It is well known that pulmonary tuberculosis in its development and extension depends largely upon the circulatory conditions in the organ involved. I observed a similar coherence in a case of syphilis of the pulmonary artery. Innumerable caseous tuberculous foci were to be seen in the right lung with an extreme syphilitic construction of the right branch of the pulmonary artery, whereas the left lung was entirely free from tuberculous foci and the left branch of the pulmonary artery was wide and smooth. The same applies to cases of unilateral miliary tuberculosis, where one lung is not involved on account of blood stasis due to post-pleuritic atelectasis. The description of one such case which I have already given in this journal may be consulted. Several congenital deformities, as in the case under discussion, such as the abnormal fissure of the left upper lobe and the abnormal origin of the left coronary artery, are combined with a general asthenic habitus, which is frequently found in cases of funnel-chest (Groedel) and often regarded as a predisposition to pulmonary tuberculosis.

Summary

The post-mortem findings of a case of funnel-chest with pulmonary tuberculosis have been described. The presence of a deep depression in the anterior wall of the right ventricle corresponding to the depression of the lower part of the sternum and causing dilatation of the right heart with constriction of the right arterial conus has led to the suggestion that in cases of funnel-chest a disturbance of the pulmonary blood supply may be responsible for the development of pulmonary tuberculosis.

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PRIMARY CARCINOMA OF THE SMALL INTESTINE

BY

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(*With Special Plate*)

Primary carcinoma of the small intestine is sufficiently rare to warrant the publication of individual cases. Many surgeons of wide experience have never actually encountered a case in either their hospital or their private practice. Raymond Johnson[1] states that out of 343 cases of intestinal carcinoma seen at the Vienna General Hospital only ten were in the small intestine. He also mentions that Hinz collected records of 584 cases, with only eighteen in the small intestine. In 1930 Rankin and Mayo[2] collected thirty-one cases from the Mayo Clinic, but this number comprised only 0.064 per cent. of the intestinal carcinomata treated. It is difficult to account for this difference between the figures for the Old and the New World—namely, 3.5 and 0.064 per cent. respectively.

The following is a brief account of two cases recently operated on by one of us (D. J. H.).

CASE I

History.—A married woman, aged 43, was admitted into the Mountain Ash General Hospital on June 6th, 1933, with loss of weight, increasing constipation, and attacks of severe colic during the previous three months. She made the statement that in one hour or so after taking food she felt it stopping when it reached the left lower abdomen. When asked to show the exact spot she pointed to the left iliac region.

Examination.—The patient was emaciated, and had a flaccid abdomen. A small tumour could be felt in the left iliac fossa, and was naturally taken to be a ring carcinoma of the iliac colon.

Operation.—The abdomen was opened through a right paramedian incision, and a ring carcinoma of the lower part of the jejunum was brought outside and resected, with about six inches of intestine on either side. On account of the dilatation and hypertrophy of the upper segment, a lateral anastomosis was made. A careful examination failed to show any secondaries.

After-history.—The patient made a good recovery from the operation, but in about a month she started losing weight and became very anaemic. She got rapidly weaker, and died in six weeks from the date of the operation. There were no obvious signs of secondaries in the chest or abdomen before death. A post-mortem examination was unfortunately not obtained.

Pathological Report on the Specimen and Sections C. V. H.).—The specimen consists of a segment of small intestine with a well-marked constriction in the centre, the intestinal wall being thickened on the proximal side. In the interior a large cauliflower-like fungating tumour, completely encircling the gut and narrowing the lumen, arises at the point of constriction and extends along the lumen for about two centimetres on either side. The surface of the tumour is necrotic, but not deeply ulcerated. At the point where the tumour is attached the muscular coat is seen to be infiltrated and destroyed. There is no evidence of polyposis or other tumours in the segment of gut examined. A section was taken from the centre of the specimen, to include both the tumour and the adjoining intestinal wall. Histologically the section shows a typical adenocarcinoma, such as is commonly found in the large intestine. Many of the cells

show mitosis. There is no attempt at mucin formation, and no evidence of degeneration in any part of the section. At the base of the tumour the cells have infiltrated through the muscular wall to the peritoneum.

CASE II

History.—A married woman, aged 49, was admitted into the Cardiff Royal Infirmary on August 18th, 1934, with loss of weight, severe epigastric pain, and attacks of vomiting during the previous four months. The vomit sometimes contained food taken three or four days before.

Examination.—The patient was very emaciated. A tumour the size of a golf ball could be easily felt just above and to the left of the umbilicus. It was freely movable. An *x*-ray plate was taken, and this showed a filling defect at the pylorus of a dilated stomach. The duodenum was not dilated. The diagnosis made was carcinoma of the pyloric portion of the stomach.

Operation.—The abdomen was opened through a right paramedian incision, and a growth of the duodeno-jejunal flexure found. After mobilizing the terminal three inches of the duodenum the growth was removed, together with two inches of duodenum and six inches of jejunum, and an end-to-end anastomosis made. A careful examination of the abdomen revealed no secondaries.

After-history.—Convalescence was uneventful, and the patient left hospital in three weeks. Soon after leaving hospital she showed signs of secondaries in the lungs, and died three months after the operation. No signs of secondaries were detected in the abdomen, and the bowels gave no trouble right up to the time of death. A post-mortem was not obtained.

Pathological Report on the Specimen and Sections (C. V. H.).—The specimen consists of a segment of small intestine showing a well-marked constriction near the middle, with some dilatation of the proximal portion. At the point of constriction there are a number of hard, raised, white nodules immediately beneath the peritoneum. A few small lymphatic glands are palpable in the attached portion of mesentery. In the wall of the intestine there is a hard, white tumour, almost completely occluding the lumen, and involving the whole circumference over a length of 1.5 cm. Over the internal surface of the tumour there is some superficial necrosis, but no actual ulceration. The muscular coat on the proximal side is hypertrophied to about twice its normal thickness. Histologically the tumour is a typical adenocarcinoma, infiltrating both the circular and the longitudinal muscular coats as far as the peritoneum. The lymphatic glands in the excised piece of mesentery show metastatic deposits of carcinoma.

Commentary

Many lessons are to be learnt from a consideration of these two cases. The diagnosis should present very little difficulty, in the presence of a palpable tumour, provided the surgeon happens to think of the existence of carcinoma of the small intestine. It is almost certain that a careful *x*-ray examination would reveal the site of the growth accurately, but in the presence of acute or subacute obstruction this would not be carried out.

Several explanations have been offered from time to time for the infrequency of carcinoma of the small intestine compared with its frequency in other parts of the alimentary canal. It is generally assumed that the small intestine is comparatively free from irritation, as the contents are fluid, alkaline, and practically sterile—conditions which are not found in the rest of the canal. But is it not more likely to be a question of cell nutrition and absorption rather than of irritation?

The mucous membrane of the stomach absorbs alcohol, but none of the products of gastric digestion. The mucous membrane of the small intestine absorbs the products of carbohydrate, fat, and protein digestion. In other words, the cells have an abundant food supply at their disposal in addition to any brought to them through the blood stream. The mucous membrane of the large intestine absorbs water and the products of bacterial activity. These include various amines, some of which are pressor bodies and some depressor. It is unlikely that these contribute to the actual nutrition of the cells lining the colon, the reverse being probably the case. It is not known if any vitamins escape absorption by the small intestine, and, if any do, their fate in the colon is unknown.

The prognosis is interesting; both patients died within three months of the operation, the first with progressive debility and anaemia, and the second with secondaries in the chest. In neither case were any secondaries seen at operation, but the microscopical examination of the few small glands found in the mesentery near the tumour, in the second case, showed the definite presence of carcinoma.

Of the thirty-one cases treated at the Mayo Clinic the average duration of life after operation was one year. The earliest succumbed in one month, and not one lived over three years. This compares very unfavourably with the results obtained by surgical removal of carcinoma of the large intestine. The explanation often given for this difference—namely, that a growth of the large intestine causes obstruction earlier on account of the more solid nature of the intestinal contents—is hardly convincing, especially as this would be incorrect for flat growths in the rectum which rarely cause obstruction until they are inoperable. Theoretically the operation results should be the reverse, as there are no difficulties in widely removing a small intestine growth with a corresponding portion of the mesentery.

On the other hand, it is known that a carcinoma is more malignant in young and active glands than in old and comparatively quiescent ones. For example, a carcinoma in the lactating breast of a young woman can be compared with a scirrhus in an old woman's breast. The former is rare and rapidly fatal, while the latter is common and not rapid in its growth or dissemination.

It has already been mentioned that the small intestine is largely concerned in absorbing the products of digestion and passing them on into the blood and lymph streams. The fat is passed into the lymph channels in the form of actual globules. It is easy to imagine that a similar fate might overtake portions of a growth lying in the mucous membrane of the small intestine. The carcinoma would also have an abundant food supply to facilitate rapid growth.

The figures on the plate are from the first case. The second case resembled the first so closely that drawings were not prepared. We are indebted to Miss White of the department of embryology for the drawings reproduced.

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[1] Johnson, R.: *Brit. Journ. Surg.*, 1922, ix, No. 35.
[2] Rankin and Mayo: *Surg., Gynecol. and Obstet.*, June, 1930.

C. S. O'Brien and J. P. Leinfelder (*Amer. Journ. Ophthalmol.*, February, 1935, p. 123) reviewed eighty-two consecutive cases of unilateral exophthalmos: 38 per cent. were inflammatory and 62 per cent. non-inflammatory. Inflammatory conditions were easily diagnosed from the sudden onset, rapid progress, signs of inflammation, and, rarely, signs of congestion in the fundus. Malignant neoplasms were the most frequent forms of non-inflammatory cause. Sarcoma was usually primary, while carcinoma usually originated from local extension, was seen only in adults, and was accompanied by regional lymph gland involvement. Meningioma, the commonest of non-malignant tumours, gave symptoms only in late stages. In traumatic orbital haemorrhage, proptosis developed rapidly and subsided slowly. Exophthalmic goitre was seen in two cases only. In non-inflammatory lesions diagnosis was sometimes difficult, requiring microscopy. The history is of importance in such cases.

Clinical Memoranda

Intestinal Obstruction Caused by Ring Carcinoma of Small Intestine*

Ring carcinoma of the small intestine, as a cause of intestinal obstruction, is sufficiently rare to make the following case one of some interest.

A married woman, aged 65, was admitted to the Wrexham and East Denbighshire Hospital in September, 1934. The complaint was one of severe recurring attacks of abdominal pain, colicky in character, and accompanied or soon followed by copious vomiting of a bilious nature. The attacks had been present since the beginning of the year. At first they had been relatively infrequent, but latterly hardly a day passed without several attacks. There had been progressive loss of weight. The bowels had continued to move in more or less normal fashion. The earlier attacks had so resembled biliary colic that they had been diagnosed as such.

On admission the patient was beginning to show signs of dehydration and, as at this time it was obvious that there was an obstructive lesion involving some part of the upper small intestine, laparotomy was advised and performed on September 21st. On opening the peritoneal cavity, and turning up the great omentum, an annular growth of one of the superficially placed coils of the small intestine was found. The bowel proximal to it was dilated and hypertrophied; that distal, relatively contracted. Since it was not considered advisable to prolong the operation, no attempt was made to determine exactly what part of the bowel was affected, but it could be stated that the upper rather than the distal half of the small intestine was involved. Resection of some ten inches of bowel was easily carried out, followed by a lateral anastomosis between the upper and the lower segments. The only difficulty encountered was in closing the upper cut end of the gut, the stitches tending to cut out of the somewhat oedematous tissue. There were no obvious glands in the mesentery, and the liver showed no evidence of secondary growth.

The first report on the microscopical examination, carried out by Dr. Grace, the hospital pathologist, was that there was no evidence of malignancy, and that the stricture was fibrous. Since this hardly corresponded with the appearance of the growth at operation, fresh sections were prepared and careful study of these showed definite evidence of malignancy, the report being: adenocarcinoma. The patient made an uninterrupted recovery, has put on weight, and at present is in perfect health.

D. LIVINGSTONE POW, M.B., F.R.C.S.ED.

An Unusual Surgical Emergency

The following case history is one which we consider worthy of recording for two reasons: first, the injury itself is, in our experience rare, or at least rarely seen by the practising surgeon; and, secondly, the nature of its occurrence was in this instance rather unusual.

A healthy male, aged 25, a steward, reported to us at about 12.15 a.m. on September 1st, 1934. The skin of the penis was torn through at a level about half an inch from the junction of the body of the organ with the pubic region, the tear involving nearly the whole circumference of the organ, less than one inch of skin being left intact on the posterior surface. The tear was rather irregular and the superficial fascia partly involved. The superficial dorsal vein was exposed, and had been injured slightly, but haemorrhage had ceased almost completely at the time of the examination. The suspensory ligament of the penis was exposed, but had escaped injury; the deep fascia and the corpus cavernosum were also uninjured.

The history given was that the patient had been in his bunk with only a short pair of drawers on and one sheet over him (the ship being in the Tropics at the time), when he became involved in an argument with a man of much stronger physique. This developed into a scuffle, and the patient was seized by the neck and the pubic region in an attempt to pull him out of bed. The pubic region was grasped through the sheet and drawers, and in all probability the penis was seized and pulled unintentionally. The patient felt little discomfort, and only the appearance of blood caused him to examine himself, when he was appalled by the sight of the organ, and he reported to us immediately. Haemorrhage appeared to have been slight. He was the possessor of a long prepuce, which would favour the occurrence of this injury from this type of trauma.

The tear was repaired immediately after a careful antiseptic toilet with a 1 in 5,000 lotion of potassium permanganate, and skin and torn fascia were brought together with twelve interrupted sutures of silkworm-gut. The wound was dressed with vaseline gauze, but as difficulty was experienced in keeping this in position tr. benz. co. was applied and left *in situ* for four days. A mild secondary infection then became apparent, and daily dressings of acriflavine 1 in 1,000 in paraffin were applied. All the stitches were removed on the eighth day.

Progress was satisfactory, except for a slighf gap on the posterior surface, and we were disappointed at not securing primary union completely. This we attribute to the occurrence of frequent nocturnal erections, which were only partly controlled by the administration of sedatives—potassium bromide 30 grains with one drachm of syrup of chloral hydrate being given t.i.d. The patient was confined to bed for the first two weeks, then allowed to sit in a chair. On September 22nd the wound had healed completely, and he resumed work on the 23rd.

At no time was there any difficulty with micturition, and up to the time of writing he has remained perfectly fit and has suffered no ill-effects of this unusual and unpleasant experience.

H. RUSSELL VERNON, M.B., Ch.B.Ed.
RONALD KELLY, M.B., B.S.Sydney.
F.R.C.S.Ed.

Rowing Injury

The following report of an unusual injury demonstrates (*a*) the extent to which severe injury can occur without apparent indication, and (*b*) the extent to which recovery of function can take place.

On October 26th, 1933, an undergraduate, while rowing in a college boat, was struck in the back by the bow of another eight-oared boat travelling in the opposite direction. The force of the impact must have been considerable, for, according to the accounts of eye-witnesses, he was lifted six feet into the air and then dropped into the river, while the fore part of the boat carrying the usual protective ball was smashed. After first-aid had been rendered he was taken to his rooms, where he was able to walk with slight assistance.

Upon examination he complained of pain and stiffness in the lumbar region. He was unable to flex his spine, and in the right paravertebral region at the level of the first and second lumbar vertebrae there was a clean-cut wound 1¼ inches long, which would not admit a probe beyond the subcutaneous tissue. No other abnormal physical sign could be detected, and there was no indication of intra-abdominal or spinal cord injury.

On the following day his general condition had improved considerably, and, apart from stiffness in the lumbar region, he stated that he felt quite well; his temperature and pulse rate remained within normal limits. On the third day signs of a pleural effusion on the right side were manifest, and an *x*-ray examination of the thoracic and lumbar regions revealed the following abnormalities: (1) the last rib on the right side was dislocated at the costo-vertebral joint; (2) the right transverse processes of lumbars I, II, and III were fractured and were lying at a distance from the bodies of the vertebrae; (3) three one-inch nails (copper) and a piece of metal binding (as used in boat building) were lying alongside the body of the first lumbar vertebra.

As the temperature and pulse rate remained normal, it was deemed advisable to delay removal of these foreign bodies until the pleural effusion had subsided. On November 13th they were removed, together with a piece of wood 1½ inches long and the fractured transverse process of the first lumbar

* An article on "Primary Carcinoma of the Small Intestine" is printed at page 923.

vertebra, through a longitudinal paravertebral incision, by Mr. Vernon Pennell. The nails, binding, and wood were lying adjacent to the lateral aspect of the body of the first lumbar vertebra, and there can be no doubt that, if the original blow had been directed slightly more towards the midline, this structure must have been fractured or at least dislocated. No attempt was made to remove the remaining fractured transverse processes.

Recovery was uneventful; on the tenth day after the operation the patient was allowed out of bed, and on the fourteenth he was permitted to walk. He resumed rowing in January, 1934, to such good effect that he was able to occupy a seat in this year's Cambridge boat and participate in the recent Boat Race.

Cambridge. WINDSOR LEWIS, M.B., B.CHIR.

Acute Appendicitis Associated with Carcinoma of the Caecum

Considering that the caecum is said to be the second most common site in the colon for the occurrence of carcinoma, it may seem rather strange that acute appendicitis as a sequence to the obstructive action is not more common. We sought for records of such cases and were surprised to find only three apposite papers—those of Parker and Rosenthal,[1] F. O. Mayer,[2] and G. F. Shears.[3] We feel, therefore, that this rarity justifies a record of our case, and that a description may prove of interest.

A man, aged 63, was admitted to the East Suffolk and Ipswich Hospital on July 4th, 1934, with one week's history of lower abdominal pain unassociated with vomiting or bowel disturbance, and with a temperature of 101.4°, a pulse rate of 120, and a tender lump in the right iliac fossa. A leucocyte count gave a figure of 17,000 cells per c.mm. On these findings a diagnosis of appendix abscess was made, and this seemed to be confirmed when, after a few days' conservative treatment, the temperature and pulse subsided to normal and the lump disappeared. Less than a year previously the patient had had a left-sided hemiplegia and his general condition was still very poor; operation for removal of the appendix, therefore, was not advised, and he was discharged to a convalescent home a fortnight later.

While at the home the patient continued to have attacks of dull aching pain in the right iliac fossa, lasting for two or three days and recurring at weekly or fortnightly intervals. He was readmitted to hospital on November 10th, 1934, for appendicectomy at the request of his doctor, who said he had greatly improved in health, but was still having attacks of pain. His appetite was now very good, and there was no loss of weight. Some thickening was still present in the right iliac fossa with a slight degree of tenderness.

At operation the appendix presented through a gridiron incision as a grossly swollen cystic tumour the size and shape of a small banana, while through the caecal wall a growth was palpable at its base. The incision was enlarged by displacing the rectus muscle, and a resection of the ascending and part of the transverse colon was carried out, the usual end-to-side anastomosis being made. Apart from slight discharge from the wound for a few days, the patient made an uneventful recovery, and was sent to a convalescent home three weeks later in excellent condition.

Macroscopically the neoplasm was an annular scirrhous growth of the caecum, about 3/4 in. in diameter and surrounding the orifice of the appendix; while microscopically it showed the features of a columnar-celled adenocarcinoma.

The case appears to be an earlier one than those already recorded, and with symptoms correspondingly slight.

We should like to express our thanks to the librarian of the Royal College of Surgeons for his bibliographic help, and to Dr. Biddle for his pathological report.

A. GRAY BANKS, M.D., F.R.C.S.Ed.
RONALD D. GREEN, M.B., B.S.Lond.

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[1] Parker and Rosenthal: *Lancet*, 1933, ii, 1089.
[2] Mayer, F. O.: *Zentralbl. f. Chir.*, 1932, ix, 597.
[3] Shears, G. F.: *Clinique*, 1906, xxvii, 719.

Reviews

EPIDEMICS AND CROWD-DISEASES

Professor MAJOR GREENWOOD'S fascinating volume with this title[1] recalls to mind his Herter Lectures, which presented, as the review in these columns (December 10th, 1932, p. 1061) said, "the outcome of his unique statistical, epidemiological, and bacteriological experience"—they were as full of matter as an egg is full of meat, and every student of epidemiology was urged to "read, mark, learn, and inwardly digest them." The new volume is even more comprehensive, and now the author (as he says) has tried "to cater for all educated men and women interested in the communal aspects of health and disease."

The "General Principles and Methods" of Part I set out the history of epidemiology, beginning with Hippocrates and Galen, noting facts collected by Rhazes and Avicenna, but pointing out that their "epidemiological theories were merely bad copies of Galen." Chapter II is entitled "From the Revival of Learning to Graunt," and commences with references to Thomas Linacre, John Kaye, to Jerome Fracastor's three books on contagion, and so onwards to Ballonius and Sydenham. The last-named (as we are told on page 35) has left a book "which has had directly and indirectly an enormous influence upon the minds of physicians and epidemiologists." Professor Greenwood says: "Sydenham has had immensely more influence upon the development of epidemiological ideas than Ballonius"; but he wishes to make it clear that Sydenham's primary interest was clinical; and he adds, "the case for regarding him as a far greater epidemiologist than I think he was" must rest on the shoulders of latter-day disciples of his, to whose writings reference is made at the foot of page 42. In Chapter III, "Graunt and Afterwards," the great advance made in epidemiology from the time of John Graunt, "the pioneer in applying statistical method to disease," down to that of William Farr, "on whose appointment another epoch in the history of epidemiology began," is history indeed, and followed up as it is in Chapter IV by "The Age of Pasteur and Galton," and development of the new statistical methodology, whose greatest hierophants have been Lambert Adolphe Quetelet, Francis Galton, and Karl Pearson, is a story to be studied again and again by every intelligent reader. Chapter V is entitled "Experimental Epidemiology," and describes happenings "when illness is introduced into a herd of mice" and "the reaction of members of the herd to the conditions under which they live." Then follows a chapter on "The Artificial Immunization of Man"; and Part I closes with three chapters, "Procatarctic Causes—Nutrition," "Procatarctic Factors—Occupation," and, perhaps most interesting of all, "Procatarctic Factors—Psychological."

Part II, "Special Illustrations," begins with the typhoid group, makes reference to Budd's pioneer work, and scrutinizes the evidence on which thirty or more years ago public water supplies were held to be responsible for epidemics, at Worthing in 1903 and Maidstone in 1897; the success, on the whole, in the application of knowledge respecting the epidemiology of this group has, however, undoubtedly been very great. As regards cholera, too, "something has changed greatly." In the chapter on measles the work of H. E. Soper, Brownlee, Percy Stocks, and J. L. Halliday is discussed. Diphtheria and scarlet fever are then considered, and the early confusion between them is commented upon. Then comes small-

[1] *Epidemics and Crowd-Diseases. An Introduction to the Study of Epidemiology.* By Major Greenwood, D.Sc., F.R.C.P., F.R.S. London: Williams and Norgate, Ltd. 1935. (Pp. 409. 21s. net.)

pox (with two special chapters—"Edward Jenner and Charles Creighton" and "The Post-Jennerian Controversy"). Next in order follow plague, epidemic diseases of the central nervous system, influenza, and three chapters on venereal diseases, tuberculosis, and cancer. Discussing recent controversies on central nervous system diseases, Professor Greenwood (p. 319) says:

"My predilections favour the view that these illnesses *should* be regarded as, epidemiologically speaking, belonging to the influenza group, and it is not too pessimistic to say that this group offers the Achilles heel of our epidemiological body. If, owing to social and economic changes, civilization has to pass through another period of social disorganization at all comparable with that of the sixth century or the early seventeenth century in Germany, it may be that influenza and its associates, rather than typhus or plague, will reap the harvest."

As to influenza itself we are told that "our failure—whether to perceive the significance of what we know, or to know what is significant—has been complete, and one should end any instruction with an appeal for further study." Professor Greenwood refers (p. 317) to the "Crookshank-Hamer doctrine"; surely it should be the "Sydenham-Webster-Creighton doctrine." In quite recent years the *Essays* of the late Dr. F. G. Crookshank and his collaborators, and the writings of Wolter, Bemelmans, and others, have brought Sydenham's "Constitutions" into notice once more; the Epidemiological Section of the Royal Society of Medicine has discussed them, and a paper of October 27th, 1933, which dealt with Brückner cycles and referred to charged hydrogen and hydroxyl ions, came under the notice of Professor W. F. Petersen of Illinois University, and happily proved the means of introducing the present reviewer to vol. iii, *Mental and Nervous Disease*, the first published instalment of Professor Petersen's projected comprehensive study of meteorological influences upon disease entitled *The Patient and the Weather*, which furnishes abundant statistical evidence of the part played by weather in producing attacks of illness; more particularly in the unfortunate subjects of an autonomic nervous system instability, which would doubtless have been attributed by Sydenham to the "manifest" and the "secret" influences of the air. Furthermore, reference to Creighton (vol. ii, pp. 406, 407, and 425) shows that Webster's object at the end of the seventeenth century was to trace the influenzas following earthquakes and volcanic eruptions to "electrical stimulus," and not to "material miasmata."

Professor Greenwood expresses at page 377 the hope that he may have taught the interested reader that "epidemiology is a field of study not only as important but as interesting as others universally agreed to be within the circle of general culture." It may surely be predicted with confidence that Professor Greenwood's and his readers' hopes will not be disappointed.

W. H. HAMER.

ANAESTHESIA

The fourth edition of Dr. Ross's *Handbook of Anaesthetics*[2] has been edited by Dr. H. P. FAIRLIE, who assumes sole responsibility for the new edition. The revision has, in one small matter, resulted in conflicting expressions of view, probably through the new editor not realizing that he had failed to delete an opinion of his predecessor with which he disagreed. This is on the proper treatment of ether tremor, for which, on page 55, a change over to chloroform is advised, whereas on page 117 such treatment is deprecated. The merits of clear statement and of brevity which have won its popularity for this handbook are still prominent: it is, however, dubious policy in a book of this scope to lay so much stress on ocular reflexes in describing the stages of anaesthesia, for it is a besetting sin amongst inexperienced administrators to place far too much reliance on these uncertain guides and in doing so to neglect safer and more important phenomena—incidentally the description of the first stage of anaesthesia omits to mention incoordination, mental confusion, and lack of control. The practical note is well sustained throughout the book, and as is necessary in a work of this scope the teaching is dogmatic. The unpunctuated twelfth line of page 272 might easily mislead the unwary reader into thinking that the normal dose of stovaine for spinal anaesthesia is 0.12 gram. Dr. Fairlie's warning about not overdoing carbon dioxide treatment is very timely, and it is gratifying also to find an Edinburgh publication stressing the dangers of chloroform.

[2] *Handbook of Anaesthetics*. By J. Stuart Ross, M.B., Ch.B., F.R.C.S.E., and H. P. Fairlie, M.D. Fourth edition. Edinburgh: E. and S. Livingstone. 1935. (Pp. 299; 66 figures. 10s. 6d. net, postage 6d.)

INSTRUCTION FOR THE CONSUMPTIVE

Tuberculosis,[3] by Dr. F. G. HOLMES, is a book of instruction for the consumptive patient. Everyone realizes that the intelligent co-operation of the patient in his treatment is more important in tuberculosis than in any other disease, and will agree, to use Dr. Holmes's succinct phrasing, that "the patient's chances of getting well often depend more on what he has between his ears than between his shoulders." To get such co-operation the patient must be taught, and taught a good deal, about his disease; but exactly what and how much he should be taught is a difficult question. The quantity and quality of instruction must surely vary so much with the temperament and intelligence of the individual patient that to compose a book which can be used, as it is suggested this book should be used, as a standard publication for this purpose seems to be attempting a difficult task. The author has confined himself to a definite line. He sets out to teach the patient in considerable detail all about his disease, its behaviour and its treatment, and there he stops short and does not attempt the more usual task of suggesting how the patient should correlate his tuberculosis and its treatment with the conditions of everyday life.

Every chapter in the book is sound; the information given follows modern thought, and is expressed most simply and clearly in pleasant American. As we have said, the subject-matter of the book is sound, but whether its use can be general is another matter. The intimate knowledge of cavitation, for instance, with which it would provide patients might have a far from salutary effect on some of them, and might seriously increase the difficulties of the physician. A cavity is a very useful thing with which to persuade a difficult patient to undergo treatment, but it is not a nice thing to envisage too clearly in one's own lung, and the wise physician will usually keep the knowledge of its existence to himself until the proper occasion for its announcement arises. All books of instruction to the consumptive are attempts at time-saving, but as there are so many permutations and combinations of the patient-tuberculosis complex, it is probable that individual instruction, laborious though it may be, is the better treatment. Dr. Holmes's well-written little book will probably be safer and more useful on the physician's table, as a guide to him in what he should say to the patient and how he should say it, than actually in the patient's hands.

[3] *Tuberculosis. A Book for the Patient*. By Fred G. Holmes, M.D. New York and London: D. Appleton-Century Company, Inc. 1935. (Pp. 312. 7s. 6d. net.)

THE PRESENT POSITION OF EMBRYOLOGY

In Professor AREY's *Developmental Anatomy*,[4] now in its third edition, the student has a very complete account of the present position of the science of embryology. The book is divided into three parts. Part I deals with general development—namely, the formation of the body as a whole from the germ cells onward. Part II deals with organogenesis, under the three headings of endodermal, mesodermal, and ectodermal derivatives. Part III forms a complete laboratory manual, describing in full detail the stages of development of the chick embryo from the ovum to its condition on the fourth day, followed by a similar study of the pig embryo. Every section of the work is abundantly illustrated with explanatory figures and diagrams, amounting in all to nearly twelve hundred drawings.

The author has attempted to cover the world literature in embryology; his presentation may therefore be said to represent accurately the present status of the science and indicate its trend. Key bibliographies are given at the end of each chapter, by means of which the reader may check the basis for opinions expressed and note the advocates in disputed fields. To students of medicine human embryology is of chief interest, and as information upon it is now available in reasonable detail, the author has made it the basis of his work. A further point of interest to medical students is the inclusion of a tolerably complete account of the malformations which result from defective development.

SURGERY OF THE OESOPHAGUS

Dr. RAYMOND GREGOIRE presents in the form of a monograph an excellent account of the surgery of the oesophagus from the point of view of a general surgeon. The intractability of the oesophagus towards surgical manœuvres because of its lack of a peritoneal coat is familiar, but Dr. Gregoire is determined to show the best that can be made of a bad case.[5] With endoscopy he has no concern, and the book is devoted to the *chirurgie sanglante* of the oesophagus, an expression for which we seem to lack an exact equivalent, but perhaps external surgery comes near. The author admits that while progress has been made in some directions, in others its scope has contracted, and that external surgery has now little to offer for cancer of the oesophagus and but seldom for the removal of foreign bodies.

Practically all progress has been founded on the development of radiology and endoscopy during the last thirty years, and it is this extended field in diagnosis which has allowed surgery to develop in certain directions. An example of improved diagnosis is to be found in the recognition of peptic ulceration, though here no surgical implication follows. The surgery of oesophageal diverticulum is now quite commonplace, owing to improved diagnosis. It is generally considered that in the neck a diverticulum is pharyngeal in origin, as shown by the researches of Killian, but Dr. Gregoire is an unrepentant upholder of the oesophageal origin. He gives a full account based on an unusually large experience, and advocates the removal by an operation in one stage. Operations in two stages he regards with kindly contempt, as suitable for throat specialists. The author has much of interest to say on the disease which is usually known as cardiospasm or achalasia. He prefers to call it *méga-oesophage*, for which preference he gives good reasons, and has devised an ingenious and logical operation for its relief.

A large proportion of the book is devoted to purely anatomical considerations, and the author has evidently devoted much thought and careful observation to the surgical anatomy concerned in the various routes by which the oesophagus may be approached. Based on this he gives a full description of the various operations which have been attempted and practised, and he indicates quite clearly those methods of operating which he believes to be feasible and some which in his hands have yielded a measure of success. This book should be of great interest to the new order of thoracic surgeons and those few general surgeons who take a special interest in the oesophagus, for it is obviously based on sound anatomy and pathology, a good survey of the literature, and a wide personal experience.

RADIOLOGICAL DIAGNOSIS

X-Ray Interpretation,[6] by Dr. CECIL BULL, provides a textbook on radiological diagnosis which should be of great value to the student of radiology. Covering every branch of the subject in so few pages, it is of necessity only a brief outline of each subject, but sound and clear information has not been sacrificed for the sake of brevity. The book is written for those who are interested in *x* rays as an aid to clinical diagnosis, and the author devotes more space to the common pathological conditions than to the rare ones. Perhaps the most pleasing and useful feature of the work is the simple line drawings and silhouettes with which the author illustrates the text. These entirely replace reproductions of *x*-ray films, which are usually seen in *x*-ray manuals. They are admirably drawn, showing the salient points to which the author specially calls attention, and although one misses, to some extent, the reproduction of films, it is no serious loss.

The first seven chapters are concerned with bones and joints, the normal appearances being fully described. Other chapters deal with the head and brain, the alimentary tract, the gall-bladder, the chest, the renal system, the teeth, and the soft tissues. A good description is given of all the common diseases likely to be met with in the radiological examination of these different systems, nothing of very great importance being omitted. The book is a worthy addition to the standard works on radiology, containing much useful information, clearly stated, and in many ways original in its presentation. It can be recommended as a useful textbook for students in connexion with the various diplomas in radiology. Finally, there is an excellent index, and the publishers are to be congratulated on the print and the general appearance of the book.

Notes on Books

In his little book[7] on insomnia Dr. EMANUEL MILLER has succeeded in covering the ground of sleep and its disorders pretty completely. He has rightly pointed out the very numerous causes of sleep disorders, and the still more numerous remedies which have been, and are being, advocated for their relief. In this manual the practitioner will find guidance on how to use these remedies in a scientific manner, and how to avoid the haphazard medication which is so often practised to the detriment of the patient and also to the reputation of useful remedies. Dr. Miller is to be congratulated on producing a concise, erudite, but essentially readable guide to this difficult subject.

[4] *Developmental Anatomy. A Textbook and Laboratory Manual of Embryology*. By Leslie Brainerd Arey. Third edition, revised. Philadelphia and London: W. B. Saunders Company. 1934. (Pp. 593; 547 figures. 27s. 6d.)

[5] *Chirurgie de l'Oesophage*. By Raymond Gregoire. Paris: Masson et Cie. 1935. (Pp. 180; 31 figures; 35 fr.)

[6] *X-Ray Interpretation*. By H. Cecil H. Bull, M.A., M.B., M.R.C.P. London: H. Milford, Oxford University Press. 1935. (Pp. 382; 280 figures. 21s. net.)

[7] *Insomnia and other Disturbances of Sleep*. By Emanuel Miller, M.A., M.R.C.S., L.R.C.P., D.P.M. London: John Bale, Sons and Danielsson, Ltd. 1935. (Pp. 88. 2s. 6d. net.)

The Spirit of Chemistry[8] is the title of a book by Professor ALEXANDER FINDLAY in which he describes for those who are not chemists the nature of the foundation on which the great discoveries in chemistry have been reached. Findlay regards chemistry as a subject which properly belongs to intellectual culture, and he has conceived the purpose of presenting it to his readers in a form that can be accepted as such. To present a view of chemistry from such a standpoint requires a certain form of genius which is not every writer's gift. Furthermore, the spectacular features which give popular interest to certain other sciences are here largely wanting. But Findlay has succeeded in giving form to his idea, and the form he has given it is aptly fitted by the title of the book. The book follows the sequence of historical events, and shows how in the succession of discoveries each depended for its inception on a previous discovery. It describes and illustrates famous experiments by which fundamental theories have been established, and also the processes of production in important industries. Character sketches are also given of the men whose names are famous in the history of chemistry. The book is likely to meet with high appreciation by those readers for whom it was especially written.

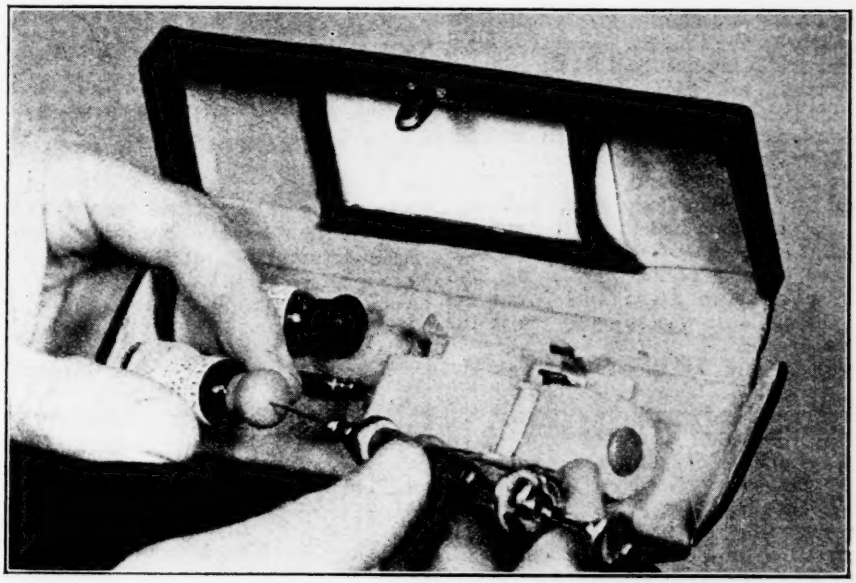
[8] *The Spirit of Chemistry. An Introduction to Chemistry for Students of the Liberal Arts.* By Alexander Findlay. London: Longmans, Green and Co. 1934. (Pp. 510; 88 figures. 10s. 6d. net.)

Preparations and Appliances

POCKET INSULIN CASE

Dr. E. E. CLAXTON (Folkestone) writes:

The case described below contains all requirements for insulin injections. It is designed to be carried in the pocket or handbag, and is always ready for immediate use. The syringe is held by a clip, and the point of the needle is protected by, and held inside, a rubber-capped spirit bottle. Bottles containing spirit and insulin are mounted in flexible loops, and allow access without removal from the case. There is also a pocket for cotton-wool and a clip for a spare needle. Provision is made for a tablet of glucose or a lump of sugar. The case, which is of leather, is light and handy, and is made for hard wear. The inside, being lined by waterproof material, is sterilizable by wiping with a swab of cotton-wool soaked in spirit. The spirit bottle can be refilled by the owner either by removing its rubber cap and replacing it or by filling the syringe with spirit and squirting it into the bottle through the rubber cap. When the cap becomes worn and punctured the bottle can be exchanged for an old insulin bottle, which answers the purpose satisfactorily.



Method of Use.—Spirit is drawn into the syringe without removing the syringe from the case. This done, the syringe is removed, and spirit squirted on to a small piece of cotton-wool, which is used for sterilizing the cap of the insulin bottle and also for preparing the skin for the injection. The syringe is now charged with insulin in the usual manner, and this can be done without removing the insulin bottle from the case. The injection is given, and the needle re-inserted into the spirit bottle through the rubber cap, which effectively holds it in position. The syringe is then pressed home into its clip. Some spirit having been drawn out of the spirit container the slight negative pressure thus produced prevents any leakage.

Advantages of the Case.—It is very small, goes easily into the pocket or handbag, is quite light, and contains everything necessary for injection. The only article that has to be removed from the case for the purpose of injection is the syringe. The inconvenience of the arranging of bottles, cotton-wool, and so on, on a table or shelf when giving the injection is thus avoided. It is impossible to drop the insulin bottle, as it is not removed from the case.

The case can be obtained empty or fitted up. It takes a standard Record insulin syringe, and is made to hold any brand of insulin. The outfit is obtainable from John Bell and Croyden, Allen and Hanburys, Maw's, and Bencard.

ERGOMETRINE

The isolation of the new ergot alkaloid ergometrine, which has resulted from the work of Moir and Dudley (*British Medical Journal*, March 16th, 1935, p. 520), marks a further advance in the long and troubled history of the pharmacology of ergot. It is perhaps safe to say that no other drug in the pharmacopoeia has provided such a variety of surprises, both pleasant and unpleasant, to chemists and pharmacologists. Messrs. Burroughs Wellcome and Co. have achieved a remarkable success, in that they have managed to put out a commercial issue of ergometrine within three weeks of the announcement of its isolation. Ergometrine is characterized by the fact that it produces a powerful and rapid action on the uterus, whereas the previously known alkaloids ergotoxine and ergotamine only produce an action after about twenty minutes. Furthermore, ergometrine appears to be free from undesirable side effects. Ergometrine has been found to be of particular value for routine oral administration after parturition. The introduction of this alkaloid therefore represents a very important advance in obstetrical therapeutics. The drug is put up in tabloids, 0.5 mg. for oral administration, 0.25 mg. for intramuscular administration, and 0.05 mg. for intravenous administration.

GOLD PREPARATIONS

We have received from Messrs. H. R. Napp Ltd. (3, Clements Inn, W.C.) a pamphlet which they have prepared regarding the use of sanocrysin and oleo-sanocrysin in tuberculosis and rheumatoid arthritis. It is generally known that gold therapy is a difficult subject, and has been associated with a good deal of controversy. The pamphlet contains a short account of the drugs and also reprints of articles by various writers on their therapeutic uses. It is available, on request, to members of the medical profession, and will be found very useful by those interested in this branch of therapeutics.

ROYAL AUSTRALASIAN COLLEGE OF SURGEONS

OPENING OF THE BUILDING AT MELBOURNE

BY

SIR D'ARCY POWER, K.B.E., F.R.C.S.

The Royal Australasian College of Surgeons has had a local habitation and a name in Collins Street for the last eight years, and Collins Street is the medical centre of Melbourne. Since March 4th, 1935, the College has had a palatial home in Spring Street, near the Parliament House, where the old High School had its quarters. The site was given by the Victorian Government, and a generous donation of £1,000 from Dr. A. E. Rowden White defrayed a part of the cost of the building.

The opening day was hot and sunny. Doctors in academic dress, and ladies in brilliant colours, waited under the shade of the trees until Sir Holburt Waring, President of the Royal College of Surgeons of England, and Sir Henry Newland of Adelaide, President of the Royal Australasian College of Surgeons, made their appearance. A procession was formed, the two Presidents being preceded by the Mace-bearer, carrying the Great Mace brought by Mr. C. H. Fagge two years ago as a gift from the Council of the Royal College of Surgeons of England. Sir Holburt Waring unlocked the door with a golden key, declared the building open, and read a message from His Majesty the King expressing his sincere good wishes for the welfare and prosperity of the College. The Hall filled quickly, the seats of honour being occupied by Sir Stanley Argyle, Premier of Victoria, Sir Richard Stawell, President-Elect of the British Medical Association, Mr. Leighton Irwin, the architect, Sir Louis Barnett and Sir Carrick Robertson of New Zealand, and the surgical representatives from Great Britain, Scotland, Canada, South Africa, and the United States. The body of the Hall was filled with surgeons, many of whom had travelled hundreds of miles from every point of the vast Commonwealth. Sir D'Arcy Power read the opening address, which he had entitled "How Surgery came to Australasia," and an hour and a half later the audience was enjoying tea in the houses of their friends.

A very large gathering met in the evening at the Wilson Hall of the Melbourne University, the chair being taken by Sir William Irvine, the Deputy Governor, in the absence on account of illness of the Governor, Lord Huntingfield. Honorary Fellowships of the College were formally conferred by Sir Henry Newland, P.R.A.C.S., upon Sir Holburt J. Waring, Bt., and Sir D'Arcy Power, K.B.E., as representing England; Professor John Fraser and Mr. Henry Wade of Edinburgh; Professor E. Archibald of Canada; Professor C. F. M. Saint of South Africa; Dr. Donald O. Balfour, President of the American College of Surgeons; Dr. Dean Lewis of the Johns Hopkins Hospital, Baltimore, from the United States; and Professor F. Wood-Jones of Melbourne University. Sir Holburt Waring took the opportunity of presenting Mr. Edgar S. J. King of Melbourne with the Jacksonian Prize, which he had distinguished himself by gaining on two occasions. The meeting concluded with an admirable address, faultlessly delivered by Professor Wood-Jones, F.R.S., on "The Master Surgeon." The rest of the week was devoted to the reading of papers on subjects connected with surgery.

The staff work of the two large meetings was admirable. The details had been well thought out, and every person knew beforehand where he had to go and what he had to do. It showed that the medical profession in Australia, owing to the size of the continent and the necessity for numerous conferences, have become past-masters in organizing. It augurs well for the success of the British Medical Association Meeting in September.

By good fortune I was able to attend the annual meeting of the Tasmanian Branch at Hobart, under the presidency of Dr. W. L. Crofton, as well as a pleasant gathering in Perth. At both places we sat down to an excellent banquet, and I learnt that "tea and damper" were no longer in favour as the staple diet, at any rate in the cities of the Commonwealth.

Australian hospitality is proverbial, and for us it knew no bounds. Mr. Malcolm Brodie, a leader in the shipping world, and his sister, Miss Brodie, took my granddaughter and myself into their home, although we were total strangers, and in the course of the few days we stayed with them cemented a firm friendship. Invitations to garden parties, lunches, dinners, and to that unique Australian institution "morning tea," were showered upon the fortunate representative surgeons, who survived them all in the best of health.

The vastness of the continent was positively appalling to a week-end visitor like myself. Some 1,500 miles from Perth to Adelaide (and four hundred of that desert), six hundred miles from Adelaide to Melbourne, and yet another six hundred from Melbourne to Sydney. We have no idea of such distances in England, or of the problems which the surgeon has to solve in the course of his practice. We know far too little at present of the grand work carried out by John Flynn. By his energy Bush hospitals have been planted in various parts of the remote Inland. He has also inaugurated an aerial medical service to bring help to homesteads and villages which are sometimes four hundred and five hundred miles from the nearest doctor. The crowning work has been to invent a portable wireless set which can transmit as well as receive messages. The motor power is supplied by a treadle; the transmitting board is like the keyboard of a typewriter, but when the letters are pressed they are transmitted in Morse. An illiterate mother, therefore, who knows little more than her alphabet, can spell out a message which appears at the other end in Morse, and can receive her answer in words.

Each of the towns we visited appeared to us as garden cities. The houses, separated from each other, and each with its well-kept garden, were of the bungalow type. The independence characteristic of the Australians has insured that no two bungalows should be alike in their architecture, and the majority are owned by their occupants. Unfortunately the flat system is coming into vogue, though fortunately even the flats retain the bungalow type.

BRITISH ASSOCIATION OF RADIOLOGISTS

During the past year a new society, the British Association of Radiologists, has been formed, under the presidency of Dr. James F. Brailsford, for the advancement of medical radiology in all its branches, with particular reference to its clinical, ethical, educational, and economic aspects. One of the principal objects of the association is to hold an annual meeting or congress in June at one of the great centres, metropolitan or provincial, at which members from all over the country may meet and obtain first-hand knowledge of work in other centres.

The first annual meeting will be held at Birmingham in June, 1935, and will extend over two days. The programme will include a reception, presidential address, hospital visits, an exhibition of radiograms of bone and joint conditions, and an annual dinner. The date of the meeting and the details of the programme will be announced shortly.

The association was formed with an initial membership of about one hundred. Membership is limited to registered medical practitioners who have been engaged solely in the practice of radiology, or radiology and therapeutics, for at least five years. Those who have been in practice for a shorter period are eligible as associate members until they qualify as full members.

Election to the association is made at the annual general meeting on the nomination of the council. Candidates who are elected at that meeting are entitled to attend the subsequent functions of the congress. Proposal forms for membership may be obtained from the honorary secretary, Dr. S. Cochrane Shanks, 68, Harley Street, London, W.1.

British Medical Journal

SATURDAY, MAY 4th, 1935

MEDICINE AND THE PUBLIC 1910–1935

When King George the Fifth came to the throne he succeeded his father as Patron of the British Medical Association. He has no more loyal subjects and no more sincere admirers and well-wishers than the members of that Association, or, indeed, of the medical profession in general. Next week, when the Silver Jubilee is officially celebrated, a loyal address will be presented to him from the Association ; and this should remind us not only of His Majesty's patronage, of the fact that he, with the Queen, personally came to open the House of the Association in the year 1925, of his own constant interest in and care for the health and well-being of his subjects, but also of the great progress of the science and art of medicine and the enormous changes which have marked the relationship of the medical profession to the public during the past quarter of a century.

We publish to-day three short surveys of medicine, surgery, and obstetrics respectively over those twenty-five years from the pens of Sir Walter Langdon-Brown, Sir Cuthbert Wallace, and Dr. John Fairbairn. A similar review of the field of medico-sociology and public health would be no less interesting and suggestive. It is no exaggeration to say that since the year 1910 medicine, using the term broadly to cover the whole field of work of the profession, has not merely advanced as a science and an art, but has become the most important of our social services ; and the public health medical service has expanded from a relatively small group of doctors concerned mainly with general matters of environment, sanitation, and epidemic disease, into a very much larger group which, in addition to these matters, is concerned both clinically and administratively with particular classes of persons and kinds of illness specially important from the communal point of view. Happily also this extension of the public health service into a limited area of the clinical field has been accompanied by a recognition of the immense amount of preventive work which has been done and should be done by private practitioners, both general and special. A more intimate relationship between the service and the whole body of practitioners not officially members of it has thus grown up ; and, in spite of the obscurant reluctance of some local authorities, the day is appreciably nearer when private practitioners will be more closely and directly associated with public health work and utilized in that sphere to a much greater extent. The full significance of these changes and tendencies is perhaps not yet properly appreciated by members of public health, Poor Law, and education authorities or by the general public, but they are important characteristics of the period under review.

At the beginning of that period the school medical service was in its infancy. School medical inspection a year or two before had been imposed as a duty upon education authorities as regards public elementary schools, but medical treatment was as yet only a power, and a power only exceptionally acted upon. Shortly afterwards the provision of medical treatment also became a duty so far as elementary schools were concerned, and the duty of inspection and power of treatment were extended to those undergoing other forms of education. A little later attention was given to the medical needs of children in relation to their mental condition. The initiation of legislation with regard to mental defect was a momentous event, and though, owing to the interruption of the war years, practical application of the law was much more restricted than had been intended, it has more recently begun to have a wider beneficent effect. Other State enactments have recognized the value of early treatment in mental illness, and have enabled authorities to facilitate such treatment and to take other steps towards a more favourable dealing with persons of unsound mind in institutions. The recent general change of name of such institutions from " asylum " to " mental hospital " is an indication of the new spirit. Supplementing, or more correctly leading up to, these measures, a voluntary movement by the medical profession, associated with enlightened laymen, has created a real revolution by its insistence on the importance of mental hygiene and the recognition of the nature, the prevalence, and the need for treatment of the psychoneuroses in adults and corresponding maladjustments in children. The initiation of this movement is one of the most important events of King George's reign.

Another revolution in medical practice and in social welfare was signalized by the introduction of the first National Health Insurance Bill at the end of the first year of the reign. Great efforts by all concerned have been necessary to alter and adjust many of the features of the Act, but, through it, there has been established a system which, though still in need of improvement, has had the most profound effect upon the provision of medical attention for the workers of the poorer classes, and has within it the seeds of still greater developments. Similarly, the Local Government Act of 1929 has changed the administration of the Poor Law in its medical aspects as well as others, and is leading to the gradual establishment of a public hospital system which must have far-reaching effects. Space allows of no more than mention of the increased attention now paid to nutrition in general, to the milk supply, water supplies, housing problems, slum clearance, industrial diseases, and of the rise into the arena of public discussion of questions relating to conception and sterilization. Note should also be taken of the establishment under the auspices of the League

of Nations of an International Health Department of great potential and practical use.

It is interesting to recall how far the British Medical Association has been concerned with these and kindred matters. It was the Association which was largely responsible for the initial impetus towards the establishment of a school medical service and of a Ministry of Health. The first Medico-Sociological Section at the Annual Meeting was held in 1910, and such a section has been a feature of each Annual Meeting since then. State insurance and the position of hospitals have naturally been prominent among the subjects discussed: others that may be noticed here include medical aspects of the Poor Law, a general medical service, the use of alcohol, mental deficiency, pure milk, fatigue in industry, the falling birth rate, sex education, the effects of motoring on health, defective hearing as a national problem, and the value of health propaganda. During the same period a number of expert special committees have been set up: among these were those whose reports on infant mortality, puerperal mortality and morbidity, drunkenness, psycho-analysis, mental deficiency, chronic arthritis, nutrition, early mental illness, medical education, osteopathy, and fractures have been published as Association pamphlets; and there are now sitting similar committees on the medical aspects of abortion, on vaccination and immunization, and on national physical training. This enumeration alone is sufficient to prove that the Association has taken a large and worthy part, during the past twenty-five years, in informing, guiding, and influencing public opinion, and in leading the profession itself to participate in necessary public health activities and in new social movements for the public good.

VOLUNTARY HOSPITAL FINANCE

That happy phrase "a handsome surplus" once more describes voluntary hospital finance for the latest completed year—1933. *The Hospitals Year-book*[1] just issued states that in that year the hospitals of Great Britain and Ireland received close upon sixteen million pounds, reckoning both income available for maintenance and revenue for capital purposes, and spent something less than fifteen millions, leaving a surplus of £922,000, or £176,000 more than in 1932. But, like the occasional surplus of personal finance, this credit loses some of its rosy colour on a closer inspection. In London, for example, the surplus is diminished to £73,000—a mere bagatelle in a turnover of four or five millions—and in one-third of the London hospitals in 1933 there was a deficit on maintenance account, which is a danger signal in hospital finance. Indeed, these large, prosperous-looking aggregates conceal many hard cases. On paper the individual deficits disappear, being balanced by surpluses somewhere else, but in fact they remain as stubbornly as ever for the hospital concerned. Furthermore, of this increase in the surplus over the figure for the preceding year, the bulk goes to Ireland, and signifies, not a true increase in hospital revenue, but the mere accident that the distribution of the sweepstakes moneys came within this period.

Altogether, voluntary hospital finance has some disquieting features. Almost everywhere voluntary gifts are shrinking, if not in total, at all events in amount per available bed. Interest from investments, owing to the lowering of rates of interest after conversion, is shrinking also. The buoyant figures are largely attributable to legacies, and one wonders how long the line of generous testators will last. Only receipts for services rendered—that is, payment for public services and the contributions of patients—show a consistent upward tendency. In London in 1933 patients' contributions per available bed amounted to £71—a large gain on the year—and payment for public and other services, £20. The revenue for services rendered, so far as the London hospitals were concerned, was greater than that received from voluntary gifts, though that does not apply to other parts of Great Britain. Money is of the same colour, no doubt, whether it comes by way of patients' contributions or voluntary subscriptions, whether by payments for specific public services or by congregational collections, but in the enlargement of this item "Payment for services rendered," the voluntary hospitals will have increasingly to reckon with their municipal neighbours. As Sir Arthur Stanley says in his foreword to the *Year-book*, it is impossible to disguise the fact that, whatever the financial situation may be, administratively the voluntary hospitals have reached an important stage in their history, finding themselves no longer in sole possession of their field. New relationships with the municipal authorities have to be made, and a large measure of joint action is necessary. "The voluntary hospitals, through their representative association, are making efforts to meet these new responsibilities and to bring about arrangements between themselves and the municipal authorities to the benefit of the health of the nation as a whole and to the pockets of all concerned, whether as voluntary donors or as ratepayers." The voluntary hospitals are also learning the value of joint action among themselves in matters of a domestic character. One result of this has been to secure a measure of recognition of the work they do in connexion with road traffic accidents; another is the promotion of the Bill now before Parliament to enable hospitals in whose trust deeds there are restrictive clauses to obtain powers to establish beds for paying patients. With regard to payment for road traffic cases, Sir Charles Harris, the honorary financial consultant to the Central Bureau of Hospital Information, estimates that 25,000 such cases were treated in 1934, at a cost of £235,000, of which a total of £110,000 has been recovered, as to three-quarters of it under the Road Traffic Acts and the common law, and as to the remainder from the patients or their friends.

[1] *The Hospitals Year-book, 1935*. Central Bureau of Hospital Information, 12, Grosvenor Crescent, S.W.1.

A word should again be said in praise of the careful statistical compilations. Even the most unimaginative can get some impression of the immense services rendered by the voluntary hospitals as these regiments of figures march past. In close upon 1,000 hospitals in 1933 the number of new in-patients was 1,233,986, and of new out-patients, 5,657,759—in each case representing large increases on the year. There is no doubt a good deal of duplication in these figures, but on the face of them it appears that one person out of nine in Great Britain and Ireland attended an out-patient department of a voluntary hospital in 1933, and one out of forty occupied a bed in the wards, while 984,276 surgical operations under a general anaesthetic were performed.

NEW HOUSES FOR OLD

Outwardly residential London may appear much the same as it did at the beginning of the present reign, but in fact one family out of every four in London is living in a post-war house. That is one of the many interesting facts to be gathered from the second volume of the Annual Report of the London County Council for 1933,[1] which deals principally with the Council's housing activities. The Council itself in thirteen years has built more than 54,000 houses and flats, and the estimated population of its dwellings is 379,530, equal to more than 8 per cent. of the population of the administrative county. Since 1920 private and public enterprise in Greater London has provided 448,789 houses, about a quarter of which have been put up by the various local authorities. On the outskirts of London there have grown as magically as the beanstalk a number of "council towns"—large cottage estates owned and administered by the County Council—one of which, Becontree, on the border of Chadwell Heath, in Essex, compares in population with Norwich or Gateshead. Here, on an estate four square miles in extent, the London County Council has erected 25,000 working-class houses. Another estate, St. Helier, in Surrey, has 9,500; Downham, in Kent, some 8,000; and there are others. Whatever may be said about the "council house," this development means that many thousands of people are living in dwellings which meet the minimum demands of sanitation and comfort, and are living also in healthier surroundings, where gardens are encouraged, parks laid out, and provision made for sports, gymnasiums, and community centres. But the provision of cottage estates is not enough. Many working-class people in undesirable tenement houses are compelled to live near their work, or for other reasons are disinclined to seek such far-away elysiums. The L.C.C., therefore, has for years past devoted itself to slum clearance and the rehousing of dispossessed persons on or near the site, and for the ten years beginning April, 1934, it has set itself to a policy of slum clearance and improvement necessitating the demolition of 33,000 houses, the erection of 58,000 houses and flats, and the rehousing of over a quarter of a million persons. The provision of new houses for old does not necessarily solve the slum problem. No doubt County Council ownership and supervision will prevent any lapse into slumdom, but one has heard strange reports of houses erected in outer London suburbs by speculative builders—reports of cheap materials, unseasoned wood, cracking walls, and warping doors. The old tenement houses had at least a certain building quality. The slum problem may easily return in a few years in a new environment unless vigilance is exercised. But the record of the London County Council in the matter of housing is one of substantial and enduring achievement.

[1] London County Council. Annual Report of the Council, 1933. Vol. ii. Public Health—General Matters of Public Health, Main Drainage, and Housing. (1s.)

POST-MORTEM TECHNIQUE

During the second half of the last century pathology and morbid anatomy were almost synonymous terms, and in this country the clinicians were the pathologists. With the rise of the various branches of pathology morbid anatomy lost its pride of place, and the teaching of pathology passed largely from the clinician to the professed pathologist; but the old tradition linking morbid anatomy with the clinician lingered, and in some schools the making of post-mortem examinations is still the cherished prerogative of the physicians. The tradition is a good one and is worthy of being preserved, provided always that those who follow it remember that morbid anatomy is still a living study and not merely a demonstration of the anatomical cause of death. To our forefathers morbid anatomy provided the one great avenue of advancing knowledge that was open to them in addition to purely clinical observation, and those who were lucky enough to have the chance spent, often enough, more time in the post-mortem room than in the wards trying to reclothe the dead bones and force them to tell the story of their decay. Thus did such men as Paget and Wilks lay the foundation of their greatness, and only those who are willing to follow in their footsteps have the right to claim that they are passing on the torch of that old tradition. This, however, is not to suggest that necropsies should only be made by those who have the time to make a special study of the subject, for that would mean the loss of a great deal of information of inestimable value; indeed, no praise can be too high for those who, being deprived of the help of a skilled pathologist and being themselves without the easy precision that comes only with daily practice, do what they can to acquire that knowledge which only a necropsy can give. While everyone is agreed that the examination should be as thorough as possible and that all available information of value should be obtained, yet, as every pathologist who is asked to report upon post-mortem material knows, it is quite common to find that some point that proves essential has been overlooked at the necropsy. This is in most cases due not to any real lack of care, but rather to a haphazard technique and want of appreciation of apparently small points whose importance is only recognized after the damage is done. Our thoughts have been turned in this direction by a pamphlet prepared by Dr. W. G. Barnard for the help of those keen clinicians in the service of the London County Council who have the opportunity to make their own post-mortem examinations. In it he describes his own technique, giving a concise and

clear account of the simple measures by which a thorough examination may be carried out. A post-mortem examination when made by Dr. Barnard seems the easiest thing in the world, and his description makes it seem very simple to the reader ; in practice it is of course less straightforward, but there must be many who, if they follow Dr. Barnard's advice, will find their examinations greatly simplified and much more informative. The pamphlet should be of great value to many besides those for whom it is primarily intended, and we hope that it may be made available for a much wider circle of readers. By a coincidence we have received almost by the same post a little book on the same subject, by Dr. D. R. Coman,[1] describing for the benefit of Canadian students and practitioners the technique of post-mortem examination as practised in the Pathological Institute of McGill University at the Royal Victoria Hospital, Montreal.

[1] Montreal: Renouf Publishing Company. 1935. (1.40 dollars.)

ON PAYING THE PIPER AND PLAYING THE GAME

There were those in 1911 who, when the medical profession was faced with a great crisis in its affairs, insisted very loudly on the principle that he who paid the piper should call the tune. The same insistence is still to be heard to-day, and a constant vigilance is necessary to ensure the recognition of the principle that the co-operation of the piper is a somewhat vital factor in the bargain. An unwilling or discontented piper may pipe a tune that is lacking in harmony ; a whole company of unwilling or discontented pipers might safely be expected to produce a result that would be hideously discordant. Those who insisted in 1911 on the principle of the payer calling the tune were up against a little difficulty. Fifteen millions of prospective insured persons were not organized as such ; the employer and the taxpayer, both of whom came under the definition of payer, were not organized at all. Fortunately the medical profession had an organization ready at hand, and, as noted recently in these columns by so shrewd and competent an observer as Dr. G. F. McCleary—a former high officer in the medical hierarchy first of the Insurance Commission and then of the Ministry of Health—the scheme of national health insurance moulded on the German model had to be radically altered before it could be made to serve in this country. And, says Dr. McCleary, it was the medical profession which did the insisting. The fundamental principles which distinguished the British scheme from those of its predecessors are now so inherent in the working of the scheme that those who did not go through the heat of the battle in 1911, or those who have entered the ranks of the profession at any time during the last twenty years and have not seen the moulding and development of the scheme and the way in which it has come to bear the impress of the profession, are apt to think that all these things just happened. They observe—and take it as a matter of course—that the cash benefits and the medical benefits are divorced for the purposes of the administration ; that the great approved societies throughout the land have no voice in and control of the medical service apart from a majority representation on the insurance committees ; that when complaints against doctors are heard the medical members on the tribunal have an equal voice with the representatives of the insured persons ; that where excessive prescribing or laxity in certification is alleged the panel committees—the doctors themselves—make the ensuing investigation ; that throughout the whole administration, central and local, the representatives of the medical profession take a significant share in the conduct of affairs ; and that, in particular, the Minister, when practitioners appeal or make representations to him, calls to his assistance the services of a standing medical advisory committee. Now, as we have said, these things do not merely just happen, and whenever any proposal is made affecting the medical service for the insured, from whatever quarter it comes, the first question the Minister has to ask himself is—"What have the duly accredited representatives of the insurance practitioners to say about this? What are the views of the Insurance Acts Committee of the B.M.A., which receives its mandate year after year from the Annual Conference of Panel and Local Medical Committees?" We began these reflections with a reference to the piper and the tune, and the same proverb may be examined from another angle. There are some people, suffering from a particular form of meanness, who are content to let the others pay the piper and to share in the enjoyment of the piper's performance without payment. This class of person may be observed at open-air performances at the seaside omitting to pay for his seat. If membership of the B.M.A. is highly desirable in the case of general practitioners as a body, it is surely essential for every insurance practitioner. It is of the essence of collective dealing in such a vast scheme as that of national health insurance, where there are so many large and conflicting interests, that a body representative of the profession—the very pivot of the whole scheme—should be organized and strengthened to the utmost. Every member of the profession who refrains from making his contribution is a potential source of weakness.

ROCKEFELLER MEDICAL FELLOWSHIPS

The Rockefeller Medical Fellowships for the academic year 1935-6 will shortly be awarded by the Medical Research Council, and applications should be lodged with the Council not later than June 1st. These Fellowships are provided from a fund with which the Medical Research Council has been entrusted by the Rockefeller Foundation. Fellowships are awarded by the Council, in accordance with the desire of the Foundation, to graduates who have had some training in research work in the primary sciences of medicine, or in clinical medicine or surgery, and are likely to profit by a period of work at a university or other chosen centre in the United States or on the Continent of Europe, before taking up positions for higher teaching or research in the British Isles. A Fellowship held in America will have the value of not less than £350 a year for a single Fellow, with extra allowance for a married Fellow, payable monthly in advance. Travelling expenses and some other allowances will be paid in addition. Particulars and forms of application are obtainable from the Secretary, Medical Research Council, 38, Old Queen Street, Westminster, S.W.1.

BALANCED DIETS FOR INDIA

We have before us Pamphlet No. 7, entitled "Balanced Diets," prepared and issued by the Bombay Presidency Baby and Health Week Association.[1] It represents the results of an attempt made with the co-operation of Sir Robert McCarrison and others to devise, by actual feeding experiments in school children, a diet that will satisfy physiological needs at a cost of from 5 to 7 rupees per month. In this attempt Dr. Tilak and his associates appear to have attained a high measure of success by the inclusion with the staple food grains, in common use by the people of India, of soya beans, dried skim milk, rice polishings, fresh ground nut cake, and preparations of sprouted seeds. The children of the Byramjee Jeejeebhoy Home, Matunga, Bombay, have "been living on this diet for the last eighteen months. They show a definite and steady increase in the rate of their growth which is over and above what might have occurred on their old diet. Their health is also well maintained; all this has been brought about without increasing the total cost of food per child." This diet was tested on young rats by Dr. H. Ellis Wilson, professor of biochemistry and nutrition at the All-India Institute of Hygiene and Public Health, Calcutta, and found to be excellent as judged by the growth of the animals and their freedom from disease. In a foreword to the pamphlet Sir Robert McCarrison says of it: "It is accurate in detail, makes use of existing knowledge of food and nutrition in a way most admirable, and goes far to solve the problem facing millions of people in this country (India): how to obtain a reasonably good diet for 5 to 7 rupees a month. It should be circulated widely, its principles taught in the schools and practised in the homes of the people. If this be done, great benefits will accrue to those whose need is greatest—the poorer classes." We congratulate the Bombay Presidency Health Association on this practical demonstration of what can be effected in improving the diet of the Indian people by the prudent application of existing knowledge.

[1] B. D. D. Chawl No. 10: Delisle Road, Bombay, No. 11. (4 annas.)

SIR PETER CHALMERS MITCHELL

Many middle-aged medical men who were students at the London and Charing Cross Hospitals in the nineties of last century will have pleasant recollections of their introduction to biological science by Sir Peter Chalmers Mitchell, who for some ten years was lecturer in biology and examiner in zoology at London University and the Royal College of Physicians, and has just retired from the secretaryship of the Zoological Society of London, to which post he was elected in 1903. Those of us who have maintained our interest in biology and have been able to keep in touch more or less with the Zoological Society during the last thirty years have watched with increasing pleasure and satisfaction its sustained advance in economic prosperity, scientific authority, and the ever-increasing range and variety of exhibits which, in the London Gardens, now include representatives of the animal kingdom from land and water all over the earth. Mitchell was the first secretary to apply the principles of modern sanitation to the housing and feeding of menagerie animals and to utilize to the full the opportunities afforded in a great zoological collection for the advance of anatomical science and medical zoology. And to this end he gathered around him in council great doctors, of whom Bland-Sutton, Elliot Smith, Leonard Hill, R. T. Leiper, J. P. Hill, and the late Andrew Balfour are perhaps best known in our generation. They gave expert advice in their particular professional capacity and were instrumental in forming a permanent "liaison" between the Zoological Society, the Royal College of Surgeons, the London School of Tropical Medicine, and other institutions, which is advantageous to all parties and to private students of anatomy, pathology, and parasitology. The increase in material and prosperity of the Society made it possible to found research scholarships in anatomy and zoology whereby anatomists and zoologists—some of whom now hold positions of distinction—have gained their early opportunities for original research in the laboratories of the society. Moreover, we owe to Mitchell's foresight, initiative, and courage the preservation of perhaps the finest of England's beauty spots within easy reach of London as a sanctuary for animal life and zoological park for the delectation of future generations of nature lovers in England. Sir Peter has been the pioneer in animal welfare not only in menageries but in the Dominions also, where his great authority in his capacity as vice-president of the Society for the Preservation of the Fauna of the Empire has contributed in no small measure to the provision of nature reserves in which the indigenous fauna can be saved from extinction in localities where their preservation does not conflict with human welfare.

MILK IN SCHOOLS

The strenuous efforts that have been made in recent years to educate the farmer and dairyman in the production of milk have resulted in a uniformly improved standard. This fact is not, however, widely appreciated, for only a few consumers have followed the developments in the industry in such a way as to appreciate the changes that have ensued. The introduction by the Marketing Board of the "Milk in School" scheme offers a suitable opportunity for diffusion of this information via the school children to the general public. The Preventive Medicine and Agricultural Advisory Departments of the University of Bristol are accordingly providing a short course on "clean and safe milk" for school teachers. The subjects dealt with comprise the details of production, nutrient values of milk, milk products and ice cream, health and disease in the cow, the means of increasing the safety of milk, storage of food, etc. Accompanying the syllabus there is a brochure on milk as a food, written in simple language for children under 12 years of age, with a supplement intended for those over 12 years. The children are invited to write essays or make drawings (suitable for posters) upon the subject "A Glass of Milk," and prizes will be awarded to senior and junior boys and girls.

TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some of the major medical disorders met with in general practice

CORONARY THROMBOSIS

BY

JOHN HAY, M.D., F.R.C.P.

There can be no satisfactory treatment of coronary thrombosis in the absence of an accurate conception of the pathological changes which result from coronary occlusion. One must visualize the blocked artery and the dead and dying wall of the ventricle, which had formerly been nourished by the blood which flowed along the vessel, now obliterated—a patch of dead myocardium that may give way if the intraventricular pressure rises beyond the breaking-point. Where the necrosis has reached the surface of the heart is an area of pericarditis. On the inner side a mural thrombus is collecting, apt at any moment to break loose into the blood stream.

For the first few weeks there is the danger of rupture of the heart and also of embolism in either circulation. Gradually the necrosed area of the myocardium is replaced by scar tissue, which in its turn may yield to the pressure within the ventricle, giving rise to an aneurysmal bulging. At the best the heart is maimed and crippled, and the patient recovers with a diminished reserve power.

Immediate Treatment

The first essential in treatment is the relief of pain. This must be immediate and thorough. If the pain is devastating then half a grain of morphine should be injected at once. If, however, the pain is less severe a quarter of a grain may be given, and repeated in half an hour if the patient is still distressed. In any case the dose must be repeated until relief is obtained. The existence of a previous hyperpiesis, or the suspicion of kidney disease, does not in any way contraindicate the use of opium or its derivatives. The vaso-dilators are useless and possibly dangerous. It may be necessary in some cases to use a general anaesthetic, such as chloroform, to mitigate the agony until the morphine has begun to take effect. For the first day or two the pain may recur, and any such recurrence would be an indication for a further injection of morphine. Nothing is to be gained by allowing the patient to suffer.

An unusual feature of the initial attack is loss of consciousness, which may occur as the result of the agonizing pain. The blood pressure falls, the pulse becomes almost imperceptible, and there is a marked slowing of the heart rate. Such syncopal attacks are rare and most alarming. In addition to the recognized treatment for syncope, atropine 1/50 grain should be injected intramuscularly, and with it 5 minims of adrenaline hydrochloride.

The second essential is rest to the damaged heart, and in view of the necrosis of the myocardium it is obvious that rest is imperative for the period in which nature is attempting to repair the damage. For the first few weeks any sudden strain or extra effort may rupture the wall of the ventricle, and for a month or more the only safe policy is to make no calls on the heart that can be avoided. This policy is at times most difficult to enforce, because it is not unusual to find that the patient feels sound and well after he has recovered from the initial pain and shock. In fact, he finds it hard to believe that he is in any danger. Nevertheless, he should be confined to bed for a month as the minimum, and a further month is advisable, more particularly if there has been clinical evidence suggestive of severe damage—such as pyrexia, marked leucocytosis, and pericarditis. Congestive failure in itself justifies prolonged rest.

In the earlier days rest should be as complete as possible, and to ensure this there should be a night and a day nurse. The patient should be fed, and no movement should be made which can be avoided. He should lie in the position which he finds most comfortable, and the use of a bed-pan must be insisted upon. Towards the end of this period discretion is necessary in regard to an advance towards a more normal life, but it goes without saying that the patient must not expect to return to the same strenuous existence which he had previously enjoyed.

Management of Shock

An outstanding feature of the onset is collapse. The patient is shocked, ashen-grey, cold, and bedewed with sweat. The pulse may be rapid, small in volume, easily compressible, almost imperceptible, and there is usually a dramatic drop in the blood pressure. The condition of shock may be so pronounced that life is endangered, and some form of cardiac stimulation is indicated: this is justifiable during the first forty-eight hours, more especially if the blood pressure has touched dangerous limits—that is, a level so low that the circulation in essential organs is jeopardized. This limit will depend on the condition of the blood pressure before the occlusion, but as a rough guide anything below 100 mm. Hg systolic may be looked upon as dangerous. After the first forty-eight hours, and for the first three weeks at least, there should not be any attempt at vigorous stimulation of the heart. The object of treatment is to maintain the circulation at the lowest level compatible with life during the period in which the lesion in the myocardium is being repaired.

During the stage of shock and collapse hot bottles, hot fomentations to the chest, warm blankets, hot drinks, and hot coffee should all be employed. The head should be kept low, and caffeine should be given intravenously, or cardiazol (Knoll: one ampoule every four hours) or 5 minims of adrenaline hydrochloride (1 in 1,000) should be injected intramuscularly.

General Measures

When the patient has recovered from the condition of collapse then I prefer not to prescribe digitalis, unless there is some clear indication for its use, such as auricular fibrillation, flutter, or congestive failure.

During the first week a common difficulty is abdominal distension. This is apt to prove a troublesome handicap, because emphysema is a relatively frequent finding in this type of patient, and any limitation of the free movement of the diaphragm is therefore dangerous. Restriction of diet, simple enemata, and laxatives may be sufficient to give relief. If they fail, a rectal tube should be passed, and may be left in position for an hour or more. In any case food should be restricted to a minimum for the first few days, and the desires of the patient be met by weak tea, coffee, and lemonade or orangeade, fortified with glucose or honey. Thirst is a common complaint during the greater part of the first week, and fluids should not be restricted.

Cyanosis, if marked, is sometimes relieved by the free administration of oxygen. From personal experience, I find that oxygen warmed and moistened is, if anything, more acceptable than untreated oxygen passed directly on to the back of the pharynx. If an oxygen tent is not available, the nasal route, through a catheter held in position by strapping over the bridge of the nose and forehead, is probably the most efficient method.

Complications

Two complications that may require treatment are auricular fibrillation, characterized by rapid and disorderly action of the ventricles, and paroxysmal tachycardia, which should be suspected if the ventricular rate jumps suddenly towards the neighbourhood of 200 per minute. The action is regular, but there is occasionally a slight prolongation of diastole.

Auricular fibrillation is usually transient, but if it persists for more than a few hours digitalis should be administered—20 minims of the tincture thrice daily, or one tabloid of digoxin (B. W. & Co.) every four hours—until either the paroxysm ceases or there is satisfactory slowing of the ventricular rate.

Ventricular tachycardia is much rarer, and requires full dosage with quinidine sulphate. The need is urgent, and large doses may be necessary: give 60 grains in twenty-four hours (10 grains in a cachet four-hourly) and watch the reaction of the patient carefully.

Another complication is that of heart-block. Partial block is not uncommon, but requires an electrocardiogram for recognition and, in any case, does not call for treatment. Complete block with syncopal attacks is fortunately rare, and is benefited by ephedrine hydrochloride half a grain by mouth, or adrenaline chloride (1 in 1,000) 5 minims intramuscularly.

Subsequent Treatment

During the first few weeks a mixture containing 12 grains of ammonium bromide and 10 grains of phenazone, twice or thrice daily, is of service: the patient becomes more composed and philosophical under its influence, and a mixture of this kind is especially valuable when the patient is a man with many and important business interests. For annoying insomnia, a tablet of theominal (5 grains) is often sufficient. It may be repeated in four hours if necessary.

At the end of a month the patient often feels fit and resents the enforced rest. He begs to be allowed to sit up or move about the room. He is well advised, however, to remain confined to bed for yet another month to enable the lesion in the myocardium to heal more completely. This prolonged rest is all the more necessary if there has been much constitutional disturbance at the onset, or if, when resting, there have been any signs of congestive failure or cardiac distress. In any case he must proceed cautiously. The slightest degree of anginal pain on effort must be accepted by the patient as a danger signal, and a tablet of trinitrin (1/100 grain) be chewed slowly, in the hope that it will afford relief.

Dyspnoea may become a distressing feature, either persisting from the onset or developing insidiously later and appearing without apparent cause. Dyspnoea is sometimes paroxysmal, or even Cheyne-Stokes in character, and it unfortunately frequently interferes with sleep. For the treatment of the dyspnoea no drug is equal to opium or its derivatives. Morphine, 1/6 grain or 1/4 grain hypodermically; omnopon, 1/3 grain by mouth; or half a drachm to a drachm of the following draught, should be prescribed:

℞ Liq. opii sedativ. ... ... ℥i
Tinct. cardamom. co. ... ... ℥i

A scarred and crippled heart is entitled to consideration, and the co-operation of the patient should be obtained by a frank statement of the reasons for an alteration in his mode of life. His full and intelligent co-operation is imperative. He must face his limitations and live within them. The earliest manifestations of cardiac inadequacy, such as an increased tendency to shortness of breath or cardiac pain on effort, must be accepted as indications that, for the time being at any rate, too much is being asked of the myocardium. The approach to a more normal life should be gradual and carefully supervised.

THE BRITISH POST-GRADUATE MEDICAL SCHOOL

PLANS AND PROSPECTS

The long-awaited British Post-Graduate Medical School is at last accomplished, and the seal will be set upon fourteen years' anticipation and endeavour with the opening by the King on Monday, May 13th. The new building is in Ducane Road, Hammersmith, almost on the Middlesex county boundary, and served from East Acton Station on the Central London Railway. Those who glance casually at the building would hardly gather the importance of the idea which it embodies. No attempt has been made at architectual embellishment; it has nothing of the classical grace of the London School of Hygiene and Tropical Medicine in Bloomsbury, which in size and some other respects it resembles. Only the armorial bearings of the University of London on the façade and an ornamental garden in the small interior court relieve its workmanlike appearance. But with so much space, such long corridors, so many laboratories, class-rooms, lecture theatres, special departments, it requires an effort of faith to see it fully tenanted and functioning.

The history of the School, its development out of the recommendations of the Athlone Committee set up by the Minister of Health in 1921, is already familiar. The achievement is one in which the Government, the University of London, and the London County Council share. The L.C.C.'s share has been to adapt its general hospital at Hammersmith, which adjoins the School, so that the two institutions can work in closest integration. The hospital has been enlarged to between 400 and 500 beds. It has been arranged to concentrate here cases requiring special investigation and treatment. Extensions and improvements have been undertaken by the Council at a cost of £100,000; they include new buildings for midwifery cases, for out-patients, for casualties, the provision of three operating theatres, new *x*-ray and light departments, a special dietetic kitchen, and a general reconstruction in accordance with modern requirements. The Hammersmith Public Assistance Institution, which was in the same enclosure as the hospital, has been "appropriated," as it was considered inadvisable that the School and hospital should remain so closely connected with a Poor Law institution; the inmates have been removed, and the institution made available for the purposes of the hospital.

THE METHOD OF TEACHING

The School is now a great machine awaiting the word "Go"—indeed, already going in parts—and it was with a view to learning the manner in which it will function that our representative interviewed the Dean, Colonel A. H. Proctor, D.S.O., who is principal executive officer and secretary of the governing body. Colonel Proctor has had a very distinguished career in the Indian Medical

Service, and he comes to his new task with very high qualifications. The corporation was indeed fortunate that when the first-appointed dean, Dr. McKeith, found it impossible to continue for health reasons, Colonel Proctor was able to accept this responsible position.

The Dean began by admitting that the plans for the actual work of the School are still rather vague. That is as it should be, for those guiding this new enterprise, with no precedents to go upon, must feel their way, and be prepared to adapt it to demands which will only become manifest when the institution is fully in being. Certain large principles, however, can be stated. The first is that the general type of teaching to be given in the School is as far as possible to be done by bringing students into personal contact with cases. Although there are two lecture theatres, each accommodating one hundred and equipped with cinematograph apparatus and so forth, there will be little, comparatively, of the lecture type of teaching. What the teaching staff, headed by the four professors (of medicine, surgery, obstetrics and gynaecology, and pathology) will desire with regard to any student coming to the School will be to satisfy themselves that his knowledge is sufficient to enable him thoroughly to examine cases. It is more or less with that in view that the time-tables have been constructed.

A student will be attached to a certain number of beds in the adjoining hospital, and with the assistance of various members of the staff he will be expected to examine and record the cases very thoroughly. The staff is being chosen with a view to including specialists in each branch of medicine—if not "specialists" in the plenary sense, at least those who have made a special study along certain lines. The student will be more or less attached to these members of the staff under the direction of the head of the department.

THE STUDENT'S DAY

The general plan of work for a student of this class will be that for the first hour and a half in the morning he will work on his cases in the wards, on which also the staff will be engaged. During the second half of the morning different members of the staff will take the students in small groups in ward clinics for bedside teaching. It is considered that about twelve students to each teacher is a convenient number, but, of course, it may be necessary on occasion to allow more; the maximum for any one teacher would be about twenty or twenty-five.

On one day a week it is contemplated that each member of the staff in a department would take "consultative out-patients," and the particular students attached to him—not other students—would attend the session. Twice a week a clinic would be held in the lecture theatre on some specific disease or group of diseases or problem in medicine, one of these clinics being taken by the professor at the head of the department, and the other by the university reader.

In the early afternoon post-mortem subjects will be demonstrated as available. Once a week it is proposed to have a medico-pathological conference attended by the medical and pathological staff, when the problems of the week would be discussed. A similar medico-radiological conference will also be held, and the students again will share in the discussion. The idea of these conferences may have arisen from the Mayo Clinic, where they have taken a very decided form, errors being discussed with candour, and a kind of inquest taking place on every death. Some such weekly conference has also been a feature at St. Bartholomew's for many years past.

The student's afternoon has not been definitely allocated. He may prefer to go to one of the special hospitals to extend his acquaintance with the subject of his choice. It is hoped to associate the School with a sufficient number of special hospitals in London to provide thorough facilities for students in all subjects. Obviously a general hospital of 400 or 500 beds cannot cover special cases. The Hospital for Sick Children, Great Ormond Street, is one of those with which the school hopes closely to work, and the same holds good of the National Hospital in Queen Square, the Central London Throat, Nose and Ear Hospital, the National Heart Hospital, and others.

If, however, the student prefers not to go to a special hospital he can spend his afternoon in the pathological laboratories at Hammersmith, and avail himself of the assistance of the staff. He will be given every facility for making himself acquainted with biochemistry, morbid histology, bacteriology, as the case may be. It is also proposed that after the first three months' study—or earlier if the student is already of a fairly well qualified type—an appointment should be created for him as a clinical assistant. A post-graduate school, of course, has to take students as they come—men who have left their practices or obtained study leave from their appointments for a specified time, longer or shorter, and to adapt its curriculum accordingly.

PROVISION FOR INSURANCE PRACTITIONERS

An important part of the School work is expected to be the teaching of national health insurance practitioners. At present facilities for post-graduate study are available as the result of special arrangements in rural areas. That more use has not been made of them is not due to the unwillingness of the country practitioner to undertake refresher courses, but to the lack of some such institution as will now be available at Hammersmith. The drawbacks to mixing together undergraduates and post-graduates for teaching are obvious. At the last Annual Panel Conference a request was made for an extension of the scheme for the benefit of practitioners from industrial and semi-industrial areas. It was said in reply that both the Ministry and the Insurance Acts Committee were alive to the desirability of refresher courses, and that within a few years practitioners might have to consider whether their terms of service should not be modified to ensure post-graduate facilities for all.

The School proposes to run refresher courses at fairly frequent intervals—not so frequently this year as in subsequent years, though for this year four courses have been arranged, starting in the middle of June—based, as far as the material in the hospital provides, on a specially prepared British Medical Association memorandum, published in our *Supplement* of April 20th (p. 176). The Dean said that it had not been possible to give effect to everything in the memorandum, but use had been made of the aspects of medicine and surgery which the School should emphasize in any arrangement of the kind for the benefit of the general practitioner.

We were shown the provisional draft of a fortnight's course. The teachers are, both members of the School staff and outside men, of outstanding reputation in the respective subjects. On Monday morning the course would begin with a study of the principles of the examination of patients, by the professor of medicine and the medical staff; and in the afternoon, the general principles in the treatment of fractures, by the surgical staff. Tuesday would be allocated to the special hospitals, the morning to the Central London Throat, Nose and Ear Hospital, and the afternoon to the London School of Dermatology, St. John's. On Wednesday, both morning and afternoon

the subject taken would be the natural history, diagnosis, and treatment of peptic ulcer and various types of functional dyspepsia, in which the leader, a man of pre-eminence in that subject, would be assisted by the School staff, including the pathologists and radiologists. On Thursday morning the common types of anaemia would be taken, and in the afternoon there would be a demonstration of obstetrical cases. Friday morning would be devoted to ante-natal examination, the afternoon to common gynaecological conditions, and Saturday morning to psychology in general practice.

On the second Monday morning the subject would be gastric carcinoma, its diagnosis and treatment, by the surgical professor and staff; in the afternoon heart diseases and heart failure, by the medical professor and staff. Tuesday would be allocated to the Hospital for Sick Children. On Wednesday morning there would be a session on chronic arthritis, and in the afternoon one on chronic rheumatism, both under the direction of a well-known spa practitioner. The subject for Thursday morning would be some common respiratory diseases, and for Thursday afternoon pulmonary tuberculosis in general practice. Friday, again, would be a surgical day: head injuries in the morning, and the diagnosis of acute abdominal conditions in the afternoon. On the Saturday morning a demonstration of local anaesthesia would be given, and in the afternoon it was suggested that the tables might be turned, and the students, having reached the end of their course, discuss the requirements of post-graduate refresher courses, with the members of the staff as listeners and possible interveners.

One important condition of such a course is that it must not be at the mercy of chance cases. The staff beforehand, with the resources of a large hospital available, will ensure that the cases are available, and the School has authority to draw upon other L.C.C. hospitals should the clinical material at Hammersmith be insufficient for a particular purpose. The Dean was anxious to make it plain that nothing in this course would depend upon a "scratch lot" of cases.

The School has a scheme in view for London general practitioners who are able to give two afternoons a week in order to keep themselves abreast of modern ideas in practice. In the winter months, also, it is hoped to organize a series of lectures by experts, not necessarily on the School staff, who will be invited to utilize the clinical material available.

Another class which it is hoped to help consists of students anxious to undertake research work or work on some particular subject. Such persons may be provided with facilities on payment of fees for assistance or bench fees, and those engaged on special research who are of sufficiently high standing may be provided with facilities practically free of charge, having the use of a laboratory in return for placing at the disposal of the School a certain amount of teaching and demonstration. There is a proposal also to have a class known as voluntary assistants, consisting of men and women especially approved by the heads of the unit or department as doing useful research work.

BUILDINGS AND EQUIPMENT

The School buildings proper consist of three stories around a central court. The laboratories and work rooms are not only well equipped, but light and airy, with every invitation to good work. The third floor is given up to special bacteriological laboratories, an autoclave room, and so forth. A very large and admirably lighted post-mortem room has been provided. The museum consists only at the moment of empty glass cases, but it is hoped presently to have an interesting collection, to which some notable gifts have already been made. The library also has a modest nucleus, and especially noteworthy is the periodicals section, with a wide range of medical and scientific current literature from many countries.

The radiological department has been made the consulting centre for the whole hospital service of the London County Council. To this department cases will be referred from other hospitals for expert opinion on diagnosis and treatment. The department, with its massive apparatus, is believed to be the best equipped in the country, and includes special provision for deep *x*-ray therapy. The operating suite, with an anaesthetic room serving two theatres, has all the advantages of shadowless lamps, sterilizing chambers, and changing-rooms. The out-patient department has a main hall accommodating three hundred, and a full gallery of consultation and examination rooms, together with a theatre for minor operations. The elaborate system of card-indexing and record-keeping was explained to us; every patient has a number which he retains throughout, and in an instant a portfolio of documents relating to him is forthcoming.

The hospital is organized in three main clinical units, dealing respectively with medicine, surgery, and obstetrics and gynaecology. For each unit the medical staff includes a professor and a reader and assistants, who are appointed by the corporation of the School, and a resident medical officer, who is a member of the staff of the London County Council on the establishment of the hospital. This officer will furnish the necessary liaison between the teaching work of the School and the clinical and administrative work of the hospital. Officers will be elected to this position as a rule for a period of six months by means of interchange within the hospitals service. The fixed establishment of medical staff at Hammersmith Hospital consists at present of a medical superintendent, a senior assistant medical officer, and three assistant medical officers.

The opening by the King, who will inspect both the School and the hospital, will inaugurate a new era in post-graduate medical education. It will, to use a colloquialism, put London on the post-graduate map. It is fitting that at the centre of the Empire there should be a mecca for those seeking post-graduate opportunities, whether from this country, or the Dominions and Colonies, or foreign lands. Medical graduates in past times have gone to many places—to the old Italian universities, to Vienna, to Edinburgh, to schools on the other side of the Atlantic—but with this outstanding organization and with the wealth of clinical material assembled in the capital and the fame of its teachers, London may well surpass anything hitherto attained.

A series of Mock Trials will be held in the theatre of the London School of Economics, Houghton Street, Aldwych, on Tuesdays, at 5.30 p.m., from May 14th to June 25th inclusive (except June 11th) in aid of King Edward's Hospital Fund for London. Seats, which vary in price from 2s. 6d. to 7s. 6d. per trial, and from 12s. 6d. to £2 for the whole series, may be obtained from the secretary, King Edward's Hospital Fund for London, 10, Old Jewry, E.C.2, or from Alfred Hays, Ltd. The Cinema, the Ballet, Airmen, Modern Authors, and *Punch* are all to come under trial. Counsel include Messrs. Philip Guedalla, Beverley Baxter, St. John Ervine, J. B. Morton ("Beachcomber"), Alec Waugh, E. V. Knox, Lieutenant Cathcart-Jones, and Drs. Cyril Norwood and T. R. Glover. Sir Gervais Rentoul, Mr. St. John Hutchinson, and Sir Chartres Biron will act as Judges.

HEALTH RESORTS CONFERENCE

BUXTON'S NEW CLINIC

The British Health Resorts Association held another of its enjoyable conferences last week-end, the hosts on this occasion being the Corporation of Buxton, who provided accommodation for a large party of medical visitors and members of the Press at St. Ann's Hotel. By a happy arrangement between the general secretary of the association (Dr. Alfred Cox) and the Meteorological Office, the guests arrived on Friday from London and elsewhere in sunshine, and saw the famous spa in its brightest spring dress. Not only were the thermal and natural baths open for their inspection, under the guidance of local medical men, but the meeting had been fixed to coincide with the formal opening by Lord Horder of a new clinic for the treatment of rheumatic diseases.

A CLINIC FOR THE MIDDLE CLASS

This clinic is owned by a private company ; it occupies one wing of the charming eighteenth century crescent and adjoins the bathing establishment. Its 100 beds are intended for persons of moderate or slender means, who are outside the scope of the Devonshire Royal Hospital. Admission will only be on the recommendation of the patient's medical adviser, and the minimum period of stay is three weeks. To modernize and equip the rooms for their new purpose has cost £26,000. The inclusive weekly charge for ordinary cases ranges from £3 13s. 6d. in a four-bedded room to six guineas in a single room.

The opening ceremony took place in the fine Adam-ceilinged dining hall—once the Buxton Assembly Room—after guests had assembled at the pump-room on the other side of the road, known as St. Ann's Well. The Duke of Devonshire presided, and Mr. W. F. Wrigley, chairman of the company, gave a brief account of the scheme, which has come into being through co-operation between the local medical profession and the civic authorities. In his address before declaring the clinic open, Lord Horder welcomed the advent of such an institution at Buxton, and read a message of good wishes from Dr. Fortescue Fox, president of the International League Against Rheumatism. Lord Horder expressed again his belief that no disease, or set of diseases, offered better scope for team work than "rheumatism." Through all the years there had been continuity of effort at that spa to apply the natural resources of the district, aided by medical skill, for the benefit of rheumatic sufferers. He was enthusiastic for the principle underlying this clinic. No lay-out for any large hospital, voluntary or municipal, should be accepted to-day which did not include a block or an annexe for the patient of moderate means. The votes of thanks to the Duke of Devonshire and to Lord Horder were proposed by the Mayor of Buxton (Mr. W. R. Sanders) and by Dr. C. W. Buckley, chairman of the Advisory Medical Board.

AFTER-DINNER SPEECHES

A tour of the clinic and the bathing establishment was followed by a banquet in St. Ann's Hotel given by the Mayor and Corporation. The Duke of Devonshire, in proposing Lord Horder's health, thanked him for this further sign of interest in the medical work of Buxton, and applauded him for his efforts to abate the dreadful noises of modern life. Sir Squire Sprigge, who gave the toast of "The British Health Resorts Association," said that this body was doing admirable work in gathering and collating accurate information about the health centres of the country and making this available for the benefit of doctors and their patients. Dr. W. G. Willoughby, in his reply, deplored both the vagueness of the information which too many resorts supplied, and the absurd universality of their claims. Dr. E. Kaye Le Fleming, proposing the toast of "Buxton," spoke of the large part that forward-minded spas could play in promoting not merely the restoration to health of invalids but also the physical fitness of the people of this country. Professor Francis Fraser, in reply to the toast of "The Guests," said that a visit to Buxton was part of his education ; he felt it a duty to study the health resorts, because balneology and climatology were subjects which must come within the range of teaching at the British Post-Graduate Medical School. The concluding toast, that of "The Buxton Clinic," was proposed by Professor Arthur Hall, who expressed his pleasure at coming once again from Sheffield to enjoy the air of this beautiful spa, and his admiration for the public spirit that had made possible so fine an addition to its medical resources.

AMUSEMENT AT HEALTH RESORTS

Though the morning session of the conference on Saturday was not directly therapeutic in character, the professional bearings of the subject under consideration were well sketched by Lieut.-Colonel W. Byam in his opening speech as chairman of the Medical Advisory Committee of the British Health Resorts Association. A cordial welcome having been offered by the Mayor, the members gave themselves up to the enjoyment of sparkling speeches by Sir Landon Ronald and Mr. St. John Ervine, who opened a discussion on "The Place of Amusement in the Health Resort." It would be misleading to imply that either of them sought to flatter those in charge of the entertainment of visitors to English watering-places. Sir Landon Ronald found the music at most seaside resorts beneath contempt, and attributed this to "the short-sighted policy of false economy pursued by those who governed the town." As for the inland spas, "some which at one time had a good orchestra have fallen from grace." Mr. Ervine had pungent things to say about the deep gloom of many health resorts, and the objectionable habit indulged in by invalids of discussing illnesses and mentioning symptoms in public. His constructive proposals were that the visitor should be encouraged to bring his wholesome thoughts with him and leave his sick thoughts at home ; that the citizens themselves should be carefully chosen so as to create an atmosphere of health in the place ; and that the local council should expel all incompetent persons, especially cooks, from the community, and pay no heed to those who in the name of economy urged them to put up with second-rate entertainments. Mr. L. du Garde Peach provided further fun, and the Lord Mayor of Stoke added a few words from the point of view of a city dweller.

SPA TREATMENT FOR CRIPPLING DISEASES

The afternoon session, with Dr. Buckley in the chair, was devoted to spa treatment for crippling diseases in children and adults, following a demonstration of orthopaedic methods at the Devonshire Royal Hospital. Dr. R. G. Gordon, the opener of the discussion, turned aside from "the well-ploughed field of crippling conditions in adults" to consider the rheumatic infections of childhood, with the cautionary remark that in all cases of rheumatoid arthritis at any age, in the acute and subacute stages, hydrotherapy must be employed with the greatest care and circumspection. In the orthopaedic disorders of children he believed that external hydrotherapy, and in particular the hot pool bath, had a wide range of usefulness, and he put forward certain physiological considerations bearing upon the efficacy of this treatment: such as the early induction of artificial pyrexia by a hot bath, the beneficial effects of hot water immersion on the capillary circulation with relaxation of spasm and relief of pain, and the biochemical changes observed in young patients during a course of treatment by such means. Dr. Gordon ended, as he had begun, on a note of caution:

"Cripples cannot be treated by rule of thumb any more than any other group of invalids, and it must be remembered that hydrotherapy is a potent weapon capable of inducing great benefits, but also of inflicting great harm, and there is scarcely any mechanism of the body which is not affected by it. The success of our spas and watering-places ultimately must depend on the benefit obtained by those who visit them, and if our people are to be encouraged to visit home spas rather than foreign spas, it must be because they go to them with the lively expectation that they will find there sane, scientific, and effective treatment for their ailments, for the foreign spa must always hold an advantage

from the point of view of recreation and amusement, just because it is foreign."

Dr. A. H. Douthwaite confined his remarks to crippling of rheumatic origin, and stressed the importance of considering the phases of general and local rheumatic processes that were suitable for physiotherapy at a spa or in the home. The chief aims of spa treatment he described under: (1) improvement of peripheral circulation; (2) recovery of muscle bulk; (3) recovery of movement when this was limited by disease; (4) improvement of the patient's general condition. He expressed the hope that the well-known efficiency of the staff of English spas might no longer be hampered by the lack of anything worthy of the name of amusement, which drove so many patients to foreign resorts. Mr. A. G. Timbrell Fisher, continuing the discussion from the point of view of the orthopaedic surgeon, touched upon the relief of adhesions and muscular contractures by physiotherapeutic measures, and the uses of underwater manipulation for stiffened joints. He urged that among other orthopaedic measures available for chronic rheumatic disease the question of careful manipulation under anaesthesia should be considered.

Ireland

Amalgamation of Dublin Hospitals

At a meeting of the governors of Sir Patrick Dun's Hospital, Dr. T. Gillman Moorhead, chairman, mentioned that a Bill for the purpose of amalgamating several of the more important Dublin hospitals would probably be introduced in the Dail next October. Negotiations had been entered into with the boards of the Royal City of Dublin Hospital and Mercer's Hospital, and after careful consideration a plan of amalgamation had been agreed, which had received the provisional approval of the hospital commissioners. A parliamentary Bill was now being drafted. The annual report stated that the number of patients treated in the extern department was 44,828, and that no fewer than 1,640 surgical operations were performed. Of the intern patients 541 were treated entirely free of all charge and a further 399 for 10s. per week or under. In the extern department 12,701 patients received free treatment. The hospital thus continued to render service entirely free of charge to large numbers of poor patients. The new out-patient department had been used since November, 1933, but not until the hospital had established an almoner's department would the full benefits of the new building be available to the sick poor; it should now be possible to establish such a unit. The Provost of Trinity College, in moving the adoption of the report, said they were hopeful that the present scheme for amalgamation would be carried to a successful issue; the financial difficulties that had formerly existed were now largely disposed of since the scheme was receiving the support of the Hospitals Commission. In fact, the initiative had come from the Commissioners and not from the hospital staffs. They aimed at having a few large general hospitals, and each of the larger hospitals would be equipped with a thoroughness which the smaller institutions could never hope to achieve.

Dispensary Doctors in Northern Ireland

At a meeting of the Tyrone Division the injustices under recent legislation to dispensary doctors were the subject of discussion. Most of these were shown to be due to the Mental Act and to the Local Government Act. Under the former a dispensary doctor is compelled to visit and examine an alleged lunatic at the latter's own house or elsewhere in the dispensary district without any police or other protection, and to furnish a certificate as to the patient's state of mind. The doctor may have to travel twenty miles or more to do so, and, presumably, if he does not find the alleged lunatic at home he must search for him, or return again and again until he does find him. The examining doctor, if a dispensary doctor, will be paid a fee of 10s. 6d. for all his risk and trouble only if the "person has been admitted as a rate-aided patient into a public mental hospital." If the doctor is not a dispensary medical officer he gets £1 1s., but in each case only if he certifies the patient as a lunatic. This is entirely contrary to public policy, as it is an inducement to reckless or unscrupulous doctors to certify doubtful cases, and is a manifest injustice to dispensary doctors, who only get half the fee paid to others, without any travelling or incidental expenses.

Difficult Midwifery Cases

Since the passing of the Local Government Act, 1934, all claims by dispensary doctors for the £2 2s. fee for attendance, at the request of a qualified midwife, on a difficult midwifery case must be forwarded to the appropriate board of guardians for a ruling as to the eligibility of the patient for medical relief. Boards of guardians, being as a rule bent on economy when this can be effected by cutting a doctor's remuneration, will naturally decide that many people who had previously never thought of seeking medical relief are eligible for it. Such a ruling has been given by the Strabane Board of Guardians in the case of a woman on the panel, who is, therefore, clearly ineligible. Dispensary medical officers will be within their rights in refusing to attend on a midwife's requisition in cases where no ticket is presented.

Poor Law Medical Officers' Salaries

The settlement between the representatives of Poor Law medical officers and the Ministry of Labour provided that the Poor Law medical officers' capitation rate for attendance on panel patients should be 1s. 6d. less than the standard rate to compensate in full for the diminution in work which was expected to result from the introduction of medical benefit. (Another proposal to reduce salaries was definitely abandoned.) For some reason not easy to account for, Poor Law work in most districts is not lessened—in some it has actually increased. Yet, in spite of this settlement, in almost all cases where new appointments have been made the guardians, with the approval of the Ministry of Home Affairs, have substantially reduced the standard salaries previously fixed by agreement between the different boards of guardians and the representatives of the Poor Law medical officers.

Scotland

Vagrancy in Scotland

The Scottish Committee of the British Medical Association, in giving evidence recently before a Departmental Committee on Vagrancy (Scotland), considered that vagrants, of whom there were a considerable number in Scotland, might be classified into four groups: professional tramps who had no desire to settle down but who travelled within the limits of a particular area; workmen who, owing to the industrial situation, were unable to find employment and who tended to develop into habitual vagrants; young men who had never been regularly employed and who went on the road in search of employment, also tending to become regular tramps; and persons physically and mentally deficient who appealed for help from the public on account of their disabilities and who would benefit from institutional care. The existing general provisions dealing with the control of common lodging houses and houses let in lodgings were quite unsatisfactory from the public health point of view, and power should be given to local authorities to deal more effectively with dirty and verminous persons. Although the Cleansing of Persons Act gave power to local authorities to provide disinfecting stations, there was no enactment which compelled a person in a verminous condition to be cleansed and have his clothing disinfected; this ought to be the subject of future legislation. At present it was a common habit for some vagrants to spend the night in barns and outhouses through the kindness of farmers and other charitably disposed persons, but this proceeding had certain dangers. It would be more satisfactory to provide new shelters in districts where there was no poorhouse or

common lodging house. The Department of Health, under Section 8 of the Poor Law (Scotland) Act, 1934, had power to require local authorities to make such arrangements; the Salvation Army and other charitable organizations had already done so in some large centres. It could not be said that the various statutes which had been introduced for the suppression of vagrancy had been successful, but some system of registration or identification of vagrants appeared to be worthy of careful consideration. The chief medical aspects of vagrancy were the possibility of causing outbreaks of infectious disease and verminous condition which might be a public nuisance and to some extent a public danger.

Lectureship in Pathology of Diseases of Children

At a meeting of the University Court of Edinburgh University on April 22nd intimation was made of a gift of £15,000 by Mrs. Stuart Hall of Edinburgh, to endow a lectureship in the pathology of diseases of children. During the past three years Mrs. Hall has presented an annual sum of £200 to the University to carry on a lectureship in this subject at the Royal Hospital for Sick Children, and this post has been held by Dr. Agnes R. Macgregor. At the same meeting Dr. A. G. Barclay, lecturer in medical radiology in the University of Cambridge, was appointed lecturer in radiology in the University of Edinburgh on his appointment as radiologist to the Royal Infirmary, and Dr. C. P. Beattie was appointed Lewis Cameron Lecturer in the department of bacteriology. It was also intimated that a fund had been established to provide an annual lecture in memory of the late Emeritus Professor Sir Edward Sharpey-Schafer, and that Sir Charles Sherrington had agreed to give the first lecture in the course of the coming summer. A gift was also notified from Lieut.-Colonel James Scott, R.A.M.C. (T.F.), of a valuable collection of paintings and reports, the outcome of research work on pellagra and other diseases carried out by Dr. Scott in Egypt during the war.

Edinburgh Post-Graduate Courses

The syllabus of the post-graduate courses in medicine to be held in Edinburgh during the summer contains particulars of the instruction obtainable in July, August, and September. From July 15th to August 3rd there will be a course in obstetrics and gynaecology at the Royal Maternity Hospital and the gynaecological wards of the Royal Infirmary; fee £8 8s. A general practitioners' course will be held from August 19th to September 14th; fee £10 10s. for four weeks, or £6 6s. for two weeks. A general surgical course will be held concurrently. A course on clinical medicine, including radiology, has been arranged for the months of May and October, and a similar course in clinical surgery, including radiology, will be held during each academic term for a period of six weeks. Graduates may obtain the syllabus from the secretary of post-graduate courses in medicine, University New Buildings, Edinburgh.

Medical Graduates at Glasgow

At the spring graduation of Glasgow University, held on April 20th, with principal Sir Robert S. Rait presiding, degrees were conferred upon 181 graduands, of whom about half were medical students. Among those to receive the degree of M.B., Ch.B. was an African prince, whose father rules a province in Nigeria. The principal said he had been impressed by the number of graduates who were engaged in further study of one kind or another. This was an indication that to an increasing extent specific qualifications were regarded as essential for successful applications for many positions, and that they enhanced the chance of future promotion.

University Graduates' Association at Aberdeen

At the meeting of the General Council of Aberdeen University, held on April 21st, it was suggested that an association should be formed in Aberdeen similar to that at Edinburgh, which was inaugurated to keep graduates in touch with the University by means of the *University Journal*, published twice yearly, and generally to assist students in various ways. It was intimated that the roll of the General Council for the year 1935 contained the names of 7,973 members. Reference was made to the appointment of Colonel John Buchan, M.P. for the Scottish universities, to the post of Governor-General of the Dominion of Canada, and regret was expressed at the severance of his connexion with the Scottish universities as Member of Parliament.

England and Wales

London County Mental Hospitals

The total number of persons of unsound mind for whose accommodation the London County Council was responsible under the Lunacy Acts on January 1st last, and of voluntary and temporary patients received under the Mental Treatment Act, was 26,075 (11,265 males and 14,810 females), an increase of 223 as compared with the previous year. On the same date 5,522 London patients who were the subject of orders of detention under the Mental Deficiency Acts were being accommodated in certified institutions provided by the Council and the mental institutions transferred from the Metropolitan Asylums Board. Since 1925 occupations officers (women) have been employed at the Council's large mental hospitals, and latterly at two institutions temporary male occupations officers have also been employed. Experience has demonstrated that ordered occupation skilfully adapted to the varying needs of different types of patients has a favourable influence on the patient's mental attitude, helps to maintain good habits, promotes physical health, and improves generally the whole atmosphere of hospital life. It is proposed, therefore, to develop occupational therapy on more intensive lines, and as a first step to employ, for an experimental period of one year, a male occupations officer at each of the remaining large mental hospitals and a woman occupations officer at Ewell. A nucleus of the nursing staff is also to be trained in details of handicrafts, so that they may supervise the work of patients. Two years ago a proposal for the extension of Maudsley Hospital was approved, and the work on the first section is now in hand. The second and final section is shortly to be commenced. Additional accommodation for patients will be provided in three blocks. Two of these will be three-story blocks for thirty patients each, and will provide accommodation suitable for the reception of private patients, one for males and the other for females. The third block, partly one-story and partly two-stories high, will accommodate thirty children, and will include a children's out-patient department. A nurses' home for sixty-five will also be provided. The roofs of the three blocks will be arranged in such a way that they may be used either for recreation or for open-air bed treatment. The estimated cost of the work now proposed, including equipment and laying out of grounds, is £120,700. The number of patients accommodated at Maudsley, all of them voluntary under the Mental Treatment Act, 1930, was 216 at the beginning of this year.

Moorfields Hospital Extension

On Thursday, May 16th, the Duke and Duchess of York will open a large new block of buildings at the Royal London Ophthalmic Hospital in City Road, better known as the Moorfields Eye Hospital. It will be named, by His Majesty's permission, the King George V Extension. It has cost £113,000, and of that sum only £12,500 remains to be collected. Moorfields, with over 150 beds, is one of the largest eye hospitals in the world, and ophthalmic surgeons throughout the British Empire have received post-graduate training there. It treats annually more than 3,000 in-patients and 50,000 out-patients, and two complete courses of instruction are given each year. The King George V Extension, which covers three-quarters of an acre, comprises a new out-patient department of the most modern kind, including orthoptic and physical therapeutic sections, with accommodation also for the hospital library and a number of cubicles.

Birmingham General Hospital

With the publication of the 155th annual report of the Birmingham General Hospital, which covers the year ended December 31st, 1934, the issue of these reports as separate entities ceases, for this institution and the Queen's Hospital, Birmingham, amalgamated on January 1st, 1935, under the title of the "Birmingham United Hospital." The events of the year reviewed in the present report include the opening in September of the deep *x*-ray therapy department, which had been presented by Sir Herbert Austin. It is stated that the new apparatus has been in constant use since its installation, and if it should be necessary, as appears probable, to make provision for the treatment of a still larger number of patients the apparatus will be amplified by the donor. The Hospital Board gave its approval during the year to a proposed auxiliary scheme, which will enable persons whose income is above the limit of the existing contributory association to insure against the cost of serious illness. It has again proved possible to meet ordinary expenditure out of ordinary income, and to provide from the same source for a large proportion of the extraordinary expenditure. A new department for the treatment of cancer is envisaged if the financial support can be obtained. The report includes a statement of the combined financial position resulting from the amalgamation of the General and Queen's Hospitals, and also a list of the officers of the new Birmingham United Hospital, which has now come into being.

St. Mark's Hospital Centenary

To celebrate the centenary of St. Mark's Hospital, City Road, a banquet was given at the Mansion House on St. Mark's Day, April 25th. The Lord Mayor (Sir Stephen Killik) presided, and was accompanied by the Lady Mayoress and attended by the sheriffs. The banquet was held in the Egyptian Hall, where the City gold plate shed a mild magnificence on the gathering, and in the gallery the band of H.M. Coldstream Guards played during the dinner. The centenary of the hospital is being made the occasion for an appeal for £60,000, to increase the number of beds to ninety-three, and to include an additional ten rooms for paying patients. Mr. H. Clifford-Turner, chairman of the appeal committee, briefly related the position of the hospital, mentioning that nearly 200 were awaiting admission and had to be delayed simply on the ground of insufficient accommodation. Sir Patrick Hastings, K.C., who proposed the toast of "St. Mark's," said that the hospital dealt with diseases, cancer, and fistula of the lower intestine, which were not generally mentioned at polite gatherings, and on that account its appeal was disadvantaged. It was started one hundred years ago by a surgeon, Frederick Salmon, and it was noteworthy that at a time when surgical technique was far less advanced than now he was said to have performed 3,500 operations without a single fatal result—the records did not state in how large a proportion the operation was followed by cure. The tragedy was, not merely that there should be two hundred people awaiting admission to a hospital of this kind, but that as they waited their chances of a successful issue progressively diminished, so that by the time such admission was possible their case was often hopeless. He understood that a portion of what was raised as the result of the appeal was to be devoted to the greater comfort and convenience of the nursing staff, and, while making some ironical comments on nursing routine, he spoke feelingly as a patient—he paid a high tribute to nursing devotion. He also testified his sense of gratitude to the surgeon who had operated on him, but he said that surgeons had to learn their work, and could only learn it through such hospitals as this. The Lord Mayor, as president of the hospital, in responding, said that since Salmon's original appeal many famous men and women had been and continued to be generous supporters of the hospital. Perhaps no Englishman ever championed more strongly the cause of the sick and poor than Charles Dickens, whose pen was used to great effect in criticism of charitable institutions which were not all that they ought to be; so that it was no mean compliment to St. Mark's that Dickens was a subscriber for twenty-five years. Major Colin Cooper made the centenary appeal, after which a collection was taken at the tables, and it was announced that £3,443 had been received, which, together with the amount already collected for the building appeal—namely, £6,070—made a total of £9,513 towards the £60,000 objective. Mr. Holland-Martin, treasurer of the hospital, thanked the donors, and Sir John Barran proposed the health of the Lord Mayor, and referred to the unbroken chain of happy tradition which had associated the chief magistrate of the City of London through these hundred years with St. Mark's Hospital. Ever since 1835 successive Lord Mayors had been its presidents, and the work the hospital had been able to achieve was due in no small measure to the countenance which the charity had enjoyed and the valuable assistance it had received from the Mansion House. Among those at the principal table, in addition to the names already mentioned, were: the Spanish Ambassador, the Counsellor of the German Embassy, Sir William and Lady Rothenstein, Sir Manubhai and Lady Mehta, Sir Charles Gordon-Watson, Mr. and Mrs. J. P. Lockhart-Mummery, Sir Joseph and Lady Burn, Dr. and Mrs. Edward Mellanby, Sir Percy and Lady Shepherd, Dr. and Mrs. N. G. Horner, and Dr. J. H. Morris-Jones, M.P.

Reports of Societies

PROBLEMS OF PROPHYLAXIS IN PULMONARY TUBERCULOSIS

A joint meeting of the Section of Epidemiology and State Medicine and the Section for the Study of Disease in Children of the Royal Society of Medicine was held on April 26th, under the chairmanship of Dr. J. D. ROLLESTON, for a discussion on the problems of prophylaxis in pulmonary tuberculosis.

Dr. ARTHUR MACNALTY (Chief Medical Officer, Ministry of Health) touched first on methods of immunization. Since 1890, when Koch prepared tuberculin, countless tuberculins had been elaborated, allergic manifestations had been described, and immunity in tuberculosis had been studied and had proved cryptic and baffling. The most notable advance had been made by Calmette and Guérin in the production of B.C.G., but the immunity produced was admittedly transient. Much remained to be done before an effective and safe immunizing agent was likely to be discovered. So far as bovine tuberculosis was concerned, considerable progress had been made in control and eradication of tuberculosis in herds. The double intradermal tuberculin test was now compulsory for the testing of certified herds, and had passed into almost universal use by veterinary practitioners. The diminution in non-pulmonary tuberculosis in humans was encouraging. In 1919 the deaths were 10,328, and in 1933 they had fallen to 5,405. Part of the improvement must be attributed to a safer milk supply. Turning to the prevention of pulmonary and other forms of tuberculosis, Dr. MacNalty said that during the twenty-one years of the national scheme in England and Wales a great change of outlook on the tuberculosis problem had come about. The State had realized that tuberculosis was not solely a disease concerning a patient, but that it implicated various social factors, such as occupation, housing, and nutrition. One great difficulty in prevention remained—that of finding the early case, and not only the early one but the primary infecting case in house or workshop. Greater attention should be given to the examination of contacts. Clinical diagnosis of tuberculosis in its early stages was extremely difficult, and it was often not the practitioner's fault that it was first diagnosed and notified when the patient was in a late stage of the disease. The public still needed to be informed of certain early signs and symptoms which should impel them to seek medical aid. Education in anti-tuberculosis work formed an integral part of the tuberculosis scheme of each local authority. The National Association for the Prevention of Tuberculosis rendered much help in this direction, and in Wales the educational side had been well developed

by the National Memorial Association. Another aid to prevention was widespread diffusion of advances in knowledge. The medical work of the Ministry was intimately linked with research work of the Medical and Agricultural Research Councils, and thus every advance in prevention and treatment was brought to the attention of local authorities and their medical officers; Dr. MacNalty instanced artificial pneumothorax and sanocrysin, both of which were now established methods of treatment. Another point for consideration, which also bore upon prevention, was the difficulty of adequate after-care for the discharged consumptive whose disease had been arrested. His medical supervision was arranged for, but his home surroundings and work frequently could not be satisfactorily adjusted. He referred with appreciation to the Papworth Settlement and the other village settlements at Preston Hall and Barrowmore. The mortality from tuberculosis of all forms had declined by 72 per cent. in England and Wales since the decennium of 1851–60.

Dr. CHARLES MILLER (London Hospital) gave an account of an examination of children up to 9 years conducted in the post-mortem rooms of the London from 1909 to 1932. The total number of subjects examined was 5,259, of whom 419 were stillborn or did not live twenty-four hours. There was no tuberculosis among these 419. Among the remaining 4,840 there were 940 cases of tuberculosis, a percentage of 17.8. Of these, 677 were cases of undoubted respiratory infection; almost certainly fourteen additional cases of double infection were primarily respiratory; 218 were alimentary infections; and twenty-one were primary infections of the common respiratory-alimentary tract—that is, the region from the lips to the epiglottis. The youngest subject was 3 weeks old, and the next 8 weeks, both with tuberculous infections of the lung. Respiratory infections were more active, more progressive, and more lethal than alimentary ones. The mortality fell as age increased, being very high in the first two years, falling rapidly in the third and fourth, and after the sixth showing a gradual decline. Thus in the first year the mortality was 81.4 per cent., and in the tenth it was 34.8. There was a greater fall in the alimentary cases than in the respiratory. Haematogenous dissemination was most common in respiratory infections, and most rare in alimentary. He acknowledged that the investigation related to a special localized population, and might not be representative of the whole country.

PREVENTION OF HUMAN TYPE

Dr. D. A. POWELL (principal medical officer, Welsh National Memorial Association) classified the measures necessary to prevent the dissemination of the human type of tubercle bacilli emanating from a pulmonary lesion as follows: (1) diagnosis and treatment while still in the closed stage; (2) search for occult cases, which, if ailing, were frequently masked under another diagnosis, such as chronic bronchitis; (3) conversion of known open cases into closed cases by treatment, either directly by collapse methods or indirectly by general sanatorium methods; (4) personal precautions by the patient, such as care in coughing and in disposal of sputum and sputum-infected articles; and (5) precautions by the patient and others, especially disinfection of clothing, utensils, and rooms, partial or complete isolation, and segregation in institutions. The importance of segregation of the open case was apt to be lost sight of in these days. Its utmost possible use was the most logical and effective method of prophylaxis available. There was much talk of exogenous and endogenous infection, but all infection to start with was exogenous. With regard to disinfection, this had been largely "debunked." Not even a grudging sulphur candle was burned nowadays on the altar of hygiene. It would be just as well for the laggard sanitary authority to point out that disinfection was only a high-sounding name for super-cleanliness. It might be summed up in two phrases: in the primary case take care of the sputum; in a surgical case take care of the discharge. Methods of personal prophylaxis should be taught intensively to the patient. He described how this was done in the cottage scheme at the North Wales Sanatorium.

PREVENTION IN INFANTS AND CHILDREN

Dr. GREGORY KAYNE, discussing the prevention of tuberculosis in infants and children, said that ignorance of the role of heredity must be stressed; it could be excluded as a cause of infection, but not as a factor in the development of disease once infection had taken place. Prevention must at present be based on two principles: avoidance of infection for as long as possible, and increase of general and specific resistance. Bovine sources of infection were sufficiently stressed in this country, but not so human contact; yet in various investigations of tuberculosis in children about 75 per cent. was found to be due to the human bacillus. Mortality figures since 1911 showed gradual decrease, but actual numbers were still high:

Mortality in 1931 Expressed as Percentage of Mortality 1911–15

	Under 1 Year	1–5 Years	5–10 Years	10–15 Years
All causes	58	40	64	68
Tuberculosis (all forms)	27	35	36	40

These figures suggested that the anti-tuberculosis measures for children under 5 were not developed to the same extent as for older children. It was probable that most of the deaths from tuberculosis in infants and young children occurred among home contacts, and it was for the latter that active measures should be adopted. He considered prevention of infection under three headings: adequate treatment of the tuberculous person in the household; hygienic measures in the home; and removal of the child from home—and in connexion with this last related some experience of "l'Œuvre Grancher" and allied organizations in France and Belgium. A fourth method was B.C.G. vaccination, which formed a useful adjunct to other methods of prophylaxis, and the use of which, under certain conditions, and hand-in-hand with the present anti-tuberculosis scheme, was to be advocated in this country. In the prevention of tuberculosis each child must be considered individually, to decide which of, or whether all, the four methods discussed were to be applied. He pleaded for a more energetic study and handling of home contacts.

Dr. REGINALD LIGHTWOOD said that tuberculous infection was most deadly in early infancy. The disadvantages of the Grancher scheme for separating infants from tuberculous parents were its costliness and the natural dislike of parents to part from their offspring. With regard to B.C.G. vaccination, the most responsible opinion was that the vaccine properly prepared and administered was harmless, and usually conferred partial immunity even when given per os. A new position arose out of the work and results of Wallgren, who administered B.C.G. intradermally, and had submitted evidence that in his own city the infant mortality of tuberculosis had shown a striking fall since this method was instituted. Dr. Lightwood gave some details of the method, adding that both on the ground of expense and for other reasons immunization, in his opinion, would only be practised in the case of infants exposed to risk which could not be indefinitely avoided by separation.

THE CASE FOR IMMUNIZATION

Dr. ROBERT CARSWELL referred to the report of the Tuberculin Committee of the Medical Research Council in 1925, which stated that the subcutaneous tuberculin test appeared to be a perfectly satisfactory one for the presence of tuberculosis in cattle when carried out under the laboratory conditions of a scientific trial, but not a satisfactory test when carried out under ordinary farm conditions. The real question, however, was as to the scientific explanation of the discrepancies which were said to be so numerous as to vitiate the general application of the test for practical purposes. Discrepancies had been reported by competent observers with both subcutaneous and intradermal tests, and would have to be accounted for; nevertheless, the two tuberculin tests

between them, repeated if necessary, and combined with sound technique and clinical experience, could be relied upon to furnish correct information in not far short of 100 per cent. of cases. It was now becoming increasingly recognized that in the Koch preparations T.R. and B.E. there were agents of undoubted immunizing value. Whatever be the exact degree or duration of this, it was at least sufficient to aid materially in the elimination of slight or incipient tubercle. Enough had been proved to encourage the hopeful ideal and objective of establishing and maintaining an entirely tubercle-free population. Clinical illustrations supporting this argument would be found in the *British Medical Journal* of October 16th, 1926; and in the same journal for October 11th, 1930, there was reported a good case of its deliberate accomplishment. The tubercle-free condition therein described had been maintained to date, and might now be considered in all probability permanent. The conversion of reactor into permanent "ceased reactor" might be a troublesome and laborious process, and the specific part required much experience, but it could be done. It would be greatly aided by the best general conditions of treatment, and no doubt improvements would be forthcoming. Prevention of infection as far as possible, early discovery, and timely eradication in the way just outlined would ultimately solve the tuberculosis problem.

Dr. LEONARD FINDLAY said that to him the seriousness of the question was not in the incidence of the disease, which was declining, but in the fact that pulmonary tuberculosis in childhood was almost invariably fatal. In any children's hospital it was the experience that most cases occurred in the first year of life, fewer in the second year, and then they rapidly disappeared. Whether it was that the infant was more susceptible or that the association with contacts was much more intimate in infancy he could not say, but the fact indicated the period of life on which prophylaxis should be concentrated. The B.C.G. was not dangerous for man, and did induce a certain amount of immunity. It seemed to him that the time for discussion had gone by, the time for action had come; but this country was so conservative, there was a strange unwillingness to do what workers in other parts of the world had shown to be the way to tackle this problem.

Sir LEONARD ROGERS gave some account of conditions favouring tuberculosis in India, especially the joint family system among Hindus, where several generations, including perhaps scores of persons, lived together in barrack-like buildings; also the purdah system. There was practically no bovine tuberculosis in India, but the human form of infection was carried by milk, owing to bad sanitation of the streets in many towns and the fact that the milk was conveyed in open cans. He recalled having seen a tank with a notice at one end, "Reserved for drinking purposes," and at the other, "Reserved for washing purposes"!

Dr. R. VEITCH CLARK (M.O.H., Manchester) said that although Dr. Powell regarded disinfection as having been "debunked," there were some diseases in which it could not be done without in safety, and tuberculosis was one of them. There was such abundant proof of the persistence of the tubercle bacillus in all circumstances and in contact with all kinds of material that any local authority which dissociated from its anti-tuberculosis scheme disinfection of the type of home in which many of these people lived would be neglecting its duty. Of course there would be very little need for disinfection if people were thoroughly trained in sanatorium regime, but the hundreds of cases of tuberculosis among those who were absolutely down in the bottom stratum of human life must be considered. Only those who had no practical contact with these conditions would advocate the abolition of disinfection as a most potent agent against the spread of tuberculosis. Such a thing as the Grancher system had to be looked upon from other points of view than the purely medical. When it was realized that a reduction of 50 per cent. in the incidence of tuberculosis had taken place during the last thirty or forty years, was there any justification for interfering with the family in such a way as the Grancher system would entail? Perhaps communal care of children might come about in this country as it was said to have done in Soviet Russia, but he was not at all sure that the nation was going to be benefited by such an arrangement. He had always been struck by the lack of appreciation of the home element in human life shown by advocates of the Grancher system, and he believed that if complete returns were forthcoming from countries where it was practised it would be shown to have very little effect in comparison with the problem as a whole. He believed the diminution of tuberculosis which had occurred was due to general rather than specific measures—to the improvement in the housing and working conditions of the population and also in the general dietary.

Dr. R. C. JEWESBURY spoke to the same effect. What was one to do when a tuberculous mother brought a baby to the child welfare centre? The proper thing, no doubt, was to separate the child from the mother, but in practice in most cases that was almost impossible. There was the question of vaccination, and he agreed with Dr. Findlay that in this country that had been practically ignored. If the work of Calmette and others were accepted—and he saw no reason why it should not be—B.C.G. ought to be given a trial. But how was it to be done? It would be necessary to have the permission of parents to subject their children to inoculation, and compulsion was out of the question. Every child sooner or later had to come into contact with tuberculous infection—in the majority of cases benign—and if something could be done to protect it during the most susceptible period—say the first three or six months of life—it might be helped over until the benign stage was more possible. Dr. E. STOLKIND referred to sanitary regulations directed against tuberculosis in Naples and Florence and other Italian cities in the middle of the eighteenth century. In comparing conditions in the various countries as they were to-day, he thought that in England they were very much better than anywhere else, though there were many things which required attention, especially overcrowding.

Dr. MACNALTY, in reply, mentioned that there was a modification of the Grancher system instituted by the London County Council; there was also a system at Hastings, but, as Dr. Veitch Clark had said, these were but drops in the ocean. He was sure that the most satisfactory way of dealing with the question, maintaining family life, which was so important, was by segregation of the infectious case rather than removal of the child from the home. With regard to B.C.G., he must tell Dr. Jewesbury that they had not been so far behind as he appeared to think. When Calmette first announced his discovery a committee of the Medical Research Council was formed to study it. The difficulty was, of course, that parents did not like their children to be given any form of vaccine treatment. Professor Lyle Cummins had offered it in Wales, but only a limited number of mothers would consent even to their children receiving it by the mouth. When it was given intradermally there was often a cold abscess, of no particular significance, but it frightened the mothers. Moreover, the immunity appeared to be very transient. He was able to say that the problem was being kept under review by the Ministry of Health and the Medical Research Council.

ANTITYPHOID SERUM

At a joint meeting of the Sections of Medicine and Pathology of the Royal Academy of Medicine in Ireland, held in the Royal College of Physicians on April 5th, with the president of the Section of Medicine, Dr. V. M. SYNGE, in the chair, Dr. A. FELIX (Lister Institute, London) read a paper on "Experimental and Clinical Results with a New Antityphoid Serum."

Dr. Felix said that he was very glad of the opportunity of addressing the meeting, since Dublin was the first place in Europe where the new antityphoid serum was being tried out. He gave an account of the experiments which first led to the conclusion that the virulence of smooth strains of *B. typhosus* was intimately correlated with their behaviour towards the action of the "O"

antibody. Inagglutinable strains were highly virulent, while agglutinable strains were of low virulence. Further experiments revealed the surprising fact that the factor responsible for inagglutinability and virulence was itself an antigen, separate and distinct from the long-established "O" and "H" antigens of *B. typhosus*. Because of its close association with virulence the symbol "Vi" had been adopted for the new antigen and its corresponding antibody. Dr. Felix demonstrated the results of experiments on active and passive immunization of mice, which clearly indicated the powerful protective action of the "Vi" antibody. The "O" antibody was found to exert another important action—namely, to neutralize the endotoxin of *B. typhosus*. From these experiments on mice it was concluded that the efficacy of a therapeutic antityphoid serum would depend on the presence in it of both the "Vi" and "O" antibodies. Serum of this type had been prepared from horses at the Serum Department of the Lister Institute, and its therapeutic effects had been tested on a number of typhoid patients in Palestine. The results of the serum treatment were definitely encouraging, for they pointed to a favourable action on both the toxaemic symptoms of the disease and the pyrexia. Dr. Felix also demonstrated the results of the examination of a number of freshly isolated strains of *B. typhosus*, and of sera from typhoid patients and convalescents. These observations further strengthened the importance of the "Vi" antigen as an essential component of typhoid vaccine, and of the "Vi" antibody as an essential component of a therapeutic antityphoid serum.

Dr. C. J. McSWEENEY, medical superintendent of Cork Street Fever Hospital, read a paper on experiments with the new antityphoid serum in Dublin, as supplied by Dr. Felix. Up to date seven cases had been treated to a conclusion, as well as five controls, the latter receiving an equivalent amount of normal horse serum. The effect of the antityphoid serum in reducing pyrexia was illustrated by diagrams of the actual case charts. All cases included in the investigation were clinically definite and bacteriologically confirmed. Of the seven cases receiving antityphoid serum one died. This was the first case treated, and, owing to Dr. Felix's absence in Palestine, had received a very inadequate amount of serum—namely, a single dose of 10 c.cm. Subsequent cases received larger doses—the usual adult dose being three injections of 50 c.cm. on successive days.

In one case, that of a nurse, this dosage was repeated later because of a relapse, which was aborted forty-eight hours after the third dose of serum. One of the cases (a child of 4 years), thought at first to be a case of tuberculous meningitis, from whom the typhoid bacillus was isolated in the cerebro-spinal fluid, made a remarkable and complete recovery after intrathecal and intramuscular administration of Felix's serum.

No appreciable effect was noticed in the five control patients receiving normal horse serum, one of whom died in the typhoid state a week after admission. While admitting that no final conclusions as to the efficacy of the serum could be drawn from so small a series of observations, Dr. McSweeney said that six of the seven cases receiving antityphoid serum ceased to cause further anxiety after the serum had been given, the only failure being in the case of the patient receiving a very inadequate single dose, who died from perforation. The effect of the serum in reducing toxaemia was even more striking than the diminution of pyrexia. It was interesting to find that the results in the smaller Dublin series of cases tallied with the Palestine findings, particulars of which Dr. Felix had deliberately withheld in order that the serum might be investigated without any preconceived ideas as to its merits. It was hoped to continue this investigation, using not only serum containing both antibodies, but also pure anti-"O" and pure anti-"Vi" sera.

Dr. W. R. O'FARRELL (president of the Section of Pathology) believed that these experiments would throw some light on the question of antityphoid vaccination. He thought the leucocyte count might be of some value in assessing the immediate good results of the serum.

Professor J. W. BIGGER said that the "Vi" antigen described by Dr. Felix was an entirely new conception, and offered great therapeutic possibilities, one of the chief of which was its utilization in establishing active immunity. The treatment of infections by antibacterial sera had hitherto been very disappointing. The only antibacterial serum which he personally thought was really good was antimeningococcal serum. Here one was dealing with an anti-endotoxin. It should be remembered that this serum was still in the experimental stage, and too much hope should not be placed in it until it had been more fully investigated. The serum should only be entrusted to those who were prepared to use it in a scientific way, and in a hospital where proper bacteriological facilities existed. If it was used indiscriminately in the treatment of typhoid some lives would be saved, but many more would be lost, and a well-founded estimate of the value of the serum would be delayed. Professor W. D. O'KELLY asked how a vaccine could be prepared which would contain the "Vi" antigen, and if the febrile reaction to the vaccine might be neutralized by giving at the same time some serum.

Dr. T. T. O'FARRELL said it was disappointing that Dr. Felix's experiments on mice had not all come out clinically as one would have expected. In the old days many cases of typhoid cured themselves, presumably because the patients produced their own antibodies. In Dr. Felix's experiments there were an enormous number of cases which showed "Vi" antigen in the serum, and yet in many cases the antibody did not arrive until quite late in the course of the disease. From this one would not think the "Vi" antibody to be of much value in affecting the progress of a case. Referring to the use of the antiserum, he was rather surprised to hear that in the case of perforation this serum had been of use. The danger of perforation was due to the *B. coli* which invaded the peritoneum, and therefore he could not see how antityphoid serum could be useful in these cases. He asked how the amounts of anti-"O" and anti-"Vi" in the serum were estimated, and in what proportions they were usually present. Professor LEONARD ABRAHAMSON said he thought Professor Bigger's criticism with regard to distribution of the serum was the best pointer to its use. Since clinicians had at first used serum only in alternate cases, and after a time had used it in every case, this was an indication of its efficacy.

Dr. G. C. DOCKERAY said that whilst it appeared that in most cases of typhoid "Vi" antibodies were produced in low titre, in one case described by Dr. Felix the "Vi" titre was higher on the seventy-seventh day than the "Vi" titre of the therapeutic sera. This would seem to suggest the possibility of being able to use convalescent serum derived from patients who did develop high titres. Dr. A. R. PARSONS said he was inclined to approach this subject with a certain degree of scepticism. He would like to draw attention to the fact that this was not the first attempt to treat typhoid with serum. In Paris in 1909, cases had been treated with Champtemase's serum. At first this serum was reported to give very good results, as was Grassier's serum, and yet very little had been heard of either of them since. Although the statistics presented by Dr. Felix and Dr. McSweeney were very good, he thought that there had not been enough cases treated by this method to go by the results. Dr. R. H. MICKS said it was a pity that the sporadic cases of typhoid could not be collected together and all be treated in one place. He wondered if it would be possible in some of the country places, where from time to time there were small epidemics of typhoid, to get some of the very early cases (especially nurses) up to town for treatment. He thought that a few first-week cases would be worth a great many third- and fourth-week cases. He suggested that Dr. McSweeney should get in touch with county medical officers of health and medical superintendents of country hospitals and ask them to send him their early cases so that he could treat them in the really early stage. He thought that quite a number of cases might be collected in this way.

Dr. J. FLOOD wondered how far one could say that this method of treatment was efficient. At present, in

assessing to what extent the serum might be of profit, there were only two sets of cases to go by—the cases which Dr. Felix had treated in Palestine and the cases which Dr. McSweeney had treated in Dublin. In his opinion these cases did not constitute a sufficient number on which to base any definite conclusions. Looking at the temperature charts, the critical period in all the cases appeared to be that period at which the patient got the serum. He thought it possible that if Dr. McSweeney had had a series of cases treated with the ordinary antityphoid serum the critical period would have fallen at the same time—namely, the day on which the patient got the serum. Dr. V. M. SYNGE thought that Professor Bigger was wise in emphasizing the fact that one should not be unduly enthusiastic about this new treatment. Once the value of the serum was fairly well established it would have to be determined by clinicians how far its use went. There was a great deal of typhoid in Ireland, and Dr. McSweeney should have plenty of material to work on. If the doctors in the country were told that Dr. McSweeney had a new treatment he was sure they would be very willing to send patients up to town for the treatment, and the patients, he was certain, would themselves be very willing to come.

Dr. FELIX, in replying, said that he had been cautious in not drawing any statistical conclusions from this small number of cases, as to do so would be entirely erroneous. The mortality rate from typhoid in Palestine was not more than about 12 per cent. He was quite aware of the older sera which had been prepared, tested, and abandoned, and was sure that Champtemase's serum must have been good. It was the only serum in the preparation of which live organisms had been used. All the sera which were now being produced were produced in a way which destroyed the antibody. It was impossible to compare the *in vitro* titres in relation to their protective action. Caution and scepticism were perfectly sound in relation to his serum; the matter was still in the experimental stage. His purpose in Palestine was to establish if there was anything to parallel the clear-cut results which he had obtained in the experimental animals. He, personally, would not expect serum to clear up a local complication like a perforation. The absorption from an intramuscular injection was more direct than that from an intraperitoneal injection. There were countries where the cases of typhoid were so numerous that one could have a better idea of the value of the serum if it was used in them than elsewhere. It would be necessary to establish co-operation between the giving of serum and the clinical results of cases before any really definite conclusions could be reached regarding the efficacy of the treatment.

Dr. MCSWEENEY, in replying, stressed the need for caution from the clinical aspect in relation to the value of this serum. He would be very glad to extend his observations in its use. The ideal place to carry out an investigation of this kind would be an institution.

At a meeting of the Pathological Society of Manchester, held on April 10th, Dr. D. R. GOODFELLOW discussed the effects of radium irradiation on the leucocytes in man, in the light of systematic observations on the daily leucocytic variations in sixty-three cases of malignant disease treated by radium. The dosage in the series ranged from 1,200 to 110,000 milligram-hours. The speaker described certain typical variations which were observed in most of his cases—for example, marked neutrophilia immediately after radium implantation, and an immediate and profound lymphopenia, which continued throughout the period of treatment, and in cases receiving large dosages was maintained until well after its termination. The lymphocyte fall was found to be roughly proportional to the dosage in each case, and a method was described whereby he was able to demonstrate a definite mathematical relationship between these two factors. After further discussing the general leucocytic variations observed, Dr. Goodfellow concluded that they were due to a combination of destruction of leucocytes in the blood stream together with the action of liberated leucotoxins on the leucopoietic centres.

CORRESPONDENCE

The Osteopaths Bill Inquiry

SIR,—Now that the inquiry into the merits of the Bill for the Registration and Regulation of Osteopaths by a committee of the House of Lords has closed, it is only right and proper that members of the British Medical Association should realize how much time and energy were spent by their staff at headquarters in collecting, arranging, and putting forward evidence material to the question at issue. Those of us who were engaged in submitting the educational and scientific aspects of the problem to the tribunal find it difficult to express our gratitude for the wise counsel and generous assistance which Dr. Anderson and Dr. Hill gave us so ungrudgingly at every turn, and which enabled various bodies opposing the Bill to combine in putting their cases without too much overlapping or tiresome repetition.

The credit due to the Council of the Association for giving so much thought and money to fighting this attempt on the part of unqualified practitioners to obtain State recognition is all the greater in that the real menace is to the public rather than to the profession. A number of individuals will always prefer heterodox to orthodox, unscientific to scientific, systems of healing, and if osteopathy were to become recognized by the State, and therefore orthodox, many of its adherents would undoubtedly seek and find other cults to satisfy their craving. Such other cults have had in the past, and will have in the future, as substantial claims for recognition as those of osteopathy, so that, with the door once open, an endless stream of applicants would sooner or later request and obtain admission. In this way the public mind here, as in the United States of America, would be hopelessly confused in choosing from a rabble of half-educated "healers" with unequal statutory privileges and responsibilities.

The inquiry was useful to the public, too, because it exposed the claim of osteopathy to provide a panacea, preventive and/or curative, for *all* human ailments. And the State recognition of this modest claim was shown to have considerable financial implications, including a reorganization, and perhaps a duplication, of all State medical services in order that no man, woman, or child should lack the skill of an osteopath in maintaining health and curing disease.

It cannot be too strongly emphasized, or too clearly recognized by the public, that the profession has been moved to oppose this Bill by consideration for the interests of the community and for the good name of the country's legislature. The future of medicine is quite secure. With its scientific basis, its constant growth of knowledge and equipment, and its lack of pretentious claims, it has nothing to fear from osteopathy or any other evanescent cult.

It is perhaps too much to expect that the public will appreciate now what they owe to the British Medical Association, but history will show that the profession, through its representative body, has not neglected its duty to those whom it serves.—I am, etc.,

Oxford, April 26th. E. FARQUHAR BUZZARD.

SIR,—The investigation just completed into the claim of the osteopaths for parliamentary recognition has ended inconclusively, as every scientific inquiry (which is what it amounted to) is likely to end when conducted by such a mixed tribunal.

The noble lord who sponsored the Bill has placed on record a statement that it had been shown during the

inquiry that in the minds of medical people there was a great prejudice against osteopathy *qua* osteopathy. He apparently felt himself compelled to look upon the medical point of view in that light, and was unable to give the doctors credit for insisting upon the need for scientific standards of evidence to substantiate new theories and to keep up the level of medical knowledge. As the main question at issue—the validity of the osteopaths' doctrine—could obviously only be decided by an estimation of the value of the evidence brought forward, in my opinion it was a mistake not to arrange for a preliminary exposition of the method of science and the nature of scientific evidence before a committee consisting mainly of non-scientific members. However eminent the individual members might be in their own spheres, it seems doubtful if they were sufficiently conversant with the subject of scientific method.

The simple primary fact might have been emphasized that not only is there no prima facie evidence for the truth of osteopathic teaching, but that teaching is so opposed to the main body of established and tested medical knowledge that we are entitled, without any question of prejudice, to judge it as highly improbable. But some of the members of the committee evidently held the opinion that the results claimed for osteopathic treatment constituted proof, or at least strong evidence, of the truth of the doctrine. Ought it not to have been made clear to the committee that the results obtained by a particular school of therapy afford no proof whatever of the validity of the teaching of that school? Every cult makes the same claim to marvellous cures. Mesmer, by all accounts, produced wonderful results by his methods, but we know that his theory of a magnetic fluid had no scientific foundation. The same situation is apparent in psychotherapy to-day, where different schools of treatment, teaching in some cases contradictory doctrines, claim equally valuable results.

It should be a truism to point out that if the osteopaths claim the right for osteopathy to be accepted as a branch or as a new school of scientific medicine, they must be content to have it judged by ordinary scientific standards. It was not clear in the early part of the inquiry whether this claim was actually being made, or whether they asked for recognition merely as successful exponents of the healing art. Dr. W. K. Macdonald in one part of his evidence stated that neither medicine nor osteopathy was a science—they were arts (third sitting). Later he said he had scientifically proved that there was a great deal to be said for his (osteopathic) point of view (fourth sitting). Later still he submitted definitely that there was scientific evidence for osteopathy (sixth sitting). That being so, it is asking no more of the osteopaths than would be demanded of any other school making a similar claim—to expect them to submit scientific evidence of their doctrines. In this case the central dogma (it seems to be held as something more than a theory or working hypothesis) concerns the osteopathic "lesion," and although they have had over thirty years in which to demonstrate it they are compelled to admit that there is no post-mortem evidence available, and not one of the ten thousand microscopical slides at the British School of Osteopathy reveals it. The *x*-ray photographs submitted to the committee were apparently only ordinary examples of common spinal malformations.

The charge of prejudice, therefore, coming as it did towards the end of the proceedings, would seem to be singularly ill founded, and can only be attributed to the noble lord's lack of knowledge of scientific principles. What impressed me in reading the reports in the *Journal* was the level of patience and courtesy maintained by the medical witnesses opposed to the Bill in an atmosphere that seemed filled with suspicion against them.—I am, etc.,

London, W.1, April 22nd. FREDERICK DILLON.

SIR,—The inquiry of the Select Committee has, like the wounded snake, at last "dragged its slow length along," and your leading article in the *British Medical Journal* of April 20th would appear to be a kindly obituary notice upon the whole sorry subject. Out of all this expensive inquiry there emerged, it seemed to me, only two reasons why the public and the profession should be asked to recognize this pseudo-science: (1) the osteopathic lesion (clearly demonstrated not to have a material existence), and the (2) scarcely stronger testimony of a few grateful patients. (Well, we all have our grateful patients, but such persons should be reserved for medical, not legal, examination if we wish to be scientific!) After these two "reasons," then indeed the operative word is "exposure"!

But let us ask whether osteopathy is now dead, and whether its practice, if present things are persisted in, is likely to diminish one iota, and the answer is very definitely "No." In other words, neither the newspapers, nor the public, nor the Peers are a bit the wiser as regards the hollowness of osteopathy (I include the Peers because, so far as I could see, they dropped the Bill not because of the scientific arguments—which from some of their questions they certainly did not understand—but because of the difficulties of providing a place for osteopathy alongside scientific medicine in the public services).

Is it not time, therefore, that the B.M.A. seriously took up the question of authoritative propaganda in matters of health which are at present left sporadically, and even furtively—*pace* the G.M.C.—almost entirely to a few newspapers? If an inquiry costing many thousands of pounds could be conjured up by a few Peers to argue about an osteopathic lesion which does not exist and to show a few grateful patients, surely this is not too much to ask.—I am, etc.,

Maidstone, April 23rd. JOHN SMITH.

SIR,—In a letter (*Journal*, January 5th, p. 34) I suggested that veterinary medicine and surgery were concerned in the Osteopaths Bill inquiry owing to the interrelationships of human and animal pathology. Apparently I was wrong, and for this correction I am indebted to Lord Marley, who referred to a statement in the book put in by Dr. W. K. Macdonald as to the essential difference between bipeds and quadrupeds. The statement (*Journal*, April 20th, p. 842) is as follows: "The quadruped gives himself, very crudely, 'an osteopathic treatment every time he walks.' Each step increases flexibility, and the alternate rotations to right and left facilitate return of the bones to their normal relationships." Thus each quadruped is its own osteopath, and the feline mystery of the cat with its nine lives is cleared up.—I am, etc.,

Warrington, April 20th. J. S. MANSON.

Gastrectomy

SIR,—Dr. Arthur Hurst (*Journal*, April 27th, p. 897) has made a valuable contribution to the discussion at present proceeding in your columns on gastro-jejunostomy and gastrectomy. In the final paragraph of his letter he says that severe gastro-jejunitis on both sides of the anastomotic line is as common a sequela as chronic ulcer, and that it cannot be recognized radiologically.

When one of Dr. Hurst's authority makes a statement on this subject I find myself accepting it as an *ex cathedra* pronouncement, and it is therefore with trepidation that I venture publicly to disagree with anything he says, even in matters radiological. But jejunitis following gastro-jejunostomy does give radiological evidence of its presence. Berg drew attention to this in his recent Silvanus Thompson Lecture,[1] and I illustrated a well-marked case, diagnosed radiographically and proved at operation, in a paper in the *British Medical Journal* of December 8th, 1934. When the efferent jejunal limb is the seat of well-marked jejunitis without any ulceration, it is tender on radioscopic palpation, its lumen is narrowed, the normal relief pattern of the plicae circulares is absent, and, finally, its contour is irregularly scalloped or notched. This scalloped contour is relatively constant, and is reminiscent of the notched appearance seen in sigmoid diverticulitis. The indentations are due to oedematous mucosal folds and plicae. From what Dr. Hurst says I am content to believe that many cases of juxtastomal jejunitis give no radiographic signs, presumably because the mucosa is not macroscopically thickened. But that there are others in which such changes exist and which show *x*-ray signs I am certain, for I have seen them.

Finally, as an apt commentary on the modern tendency, I overheard the following recently at hospital. A: "What is So-and-so doing in theatre this afternoon?" B: "Unpicking a gastro-jejunostomy!"—I am, etc.,

London, W.1, April 27th. S. COCHRANE SHANKS.

Cancer and Gastric Ulcer

SIR,—In your last issue Dr. Hurst advocates medical treatment in gastric ulcer, irrespective of the length of the history and the size of the crater. Dr. Hurst also mentions that he knows practitioners who have not sent a case of gastric ulcer to a surgeon for ten years. Can this be the explanation of a fact which has been troubling my mind for some time? I refer to the increase in the number of cases of carcinoma of the stomach developing in chronic gastric ulcer. To take two examples seen during the past ten days:

A man of 52 for eight years had typical attacks of chronic gastric ulcer relieved by medical treatment. During the last attack but one he received in-patient treatment with much benefit. For the last three months he had lost weight rapidly. Laparotomy revealed a large, hard ulcer on the lesser curve, with secondary deposits around and extending along the para-aortic lymphatic chain.

The second case gave an almost identical history, save that he was 43 years of age, and had had symptoms for ten years.—I am, etc.,

London, W.1, April 29th. HAMILTON BAILEY.

Fibrositis in General Practice

SIR,—Having studied massage in Stockholm for two years before taking up the study of medicine, I was especially interested in Dr. Maxwell Telling's article in the *Journal* of April 6th and in Dr. Collis Hallowes's letter in your issue of April 13th.

I would stress the need for deep massage in the treatment of fibrositis, picking out the fibrositic bands and nodules (which the trained touch can readily feel) with the finger-tips and using firm pressure. Effleurage and gentle kneading often do not reach the affected part, the painful areas frequently being very localized. The cure is essentially a painful one, but the pain felt at the commencement of each treatment soon becomes less, and is followed by a definite feeling of relief. Bruising in such cases is no indication of faulty treatment, it being readily produced in those persons who bruise easily. Heat, in the form of diathermy, is soothing in those cases that begin with a very acute stage; but, alone, it cannot effect a cure, and requires to be followed in a day or two by deep massage.

The failure of massage to bring about a cure is due to faulty technique, the masseuse erring on the side of gentleness. I can well remember my old teacher, Dr. Arvedson, passing a student who was massaging a patient for fibrositis of the neck, saying, "You cannot be doing any good, your patient looks too happy."—I am, etc.,

London, W.C., April 23rd. MARGARET MOORE WHITE.

Ether Convulsions

SIR,—Dr. H. K. Ashworth's letter (April 20th, p. 851) so splendidly summarizes this subject that I hesitate to add two other temperature-raising factors which contribute to ether convulsions: (1) the pre-operative atropine injection, which prevents cooling by sweating; (2) the pernicious practice of covering the patient's body with rubber sheeting during operations. It seems that if we do everything we can during the operation to raise the already high temperature of the patient we can in certain cases produce heat stroke with convulsions.

As the literature on ether convulsions is confused by erroneous diagnosis and the inclusion of many cases of ether tremor, I would suggest, as a criterion of diagnosis, a rectal temperature during the convulsions of above 105° F. To regard the condition as heat stroke is to give us the key to the treatment—namely, energetic cooling measures, especially of the carotid blood stream, and the intravenous injection of a proved anti-convulsant—namely, nembutal.—I am, etc.,

London, W.1, April 24th. A. DICKSON WRIGHT.

Rare Sequel to Schick Test

SIR,—Dr. R. Miles Orpwood, in his letter in your issue of February 16th, drew attention to a rare sequel to the Schick test—that is, cutaneous anaesthesia spreading downwards from the site of injection. He mentions that it is probably the only one on record. A similar experience may therefore be of interest.

Intracutaneous injections of onefold, fourfold, and tenfold Schick toxins and corresponding controls (A. T. Glenny and Hilda Waddington, *Journ. Path. and Bact.*, 1929, xxxii, 275) were made on a male volunteer, aged 26 years, whose circulating antitoxin was less than 1/1,000 unit per c.cm. (Onefold Schick toxin is the ordinary routine reagent; fourfold and tenfold Schick toxins are toxin-toxoid mixtures, having respectively four times and ten times the antitoxin-combining power of ordinary Schick toxin, but containing approximately the same amount of skin-reacting toxin.) The toxins were injected into the flexor surface of the right arm on the lateral side of the mid-line, the onefold proximally, the tenfold distally, and the fourfold between the two, and the corresponding controls similarly on the left arm. Strong positive reactions developed to all three toxins within forty-eight hours, the reaction to the fourfold being the largest and most intense. They remained bright for a fortnight or so and then faded gradually, but were still visible three months later. An unusual feature of the reactions was the local itching, which lasted for about two weeks. The control injections produced faint transient reactions.

About five weeks after the injections the individual noticed loss of sensation over the area of the right forearm where the reactions had developed, the left forearm being normal. On examination the area of loss of sensibility to heat, cold, and light touch was found to be five inches by three inches, with a central area of loss to pinprick—that is, the area of anaesthesia covered the whole area of the reactions and was

[1] *Brit. Journ. Radiol.*, March, 1935, p. 87.

widest in the region of the fourfold toxin. Since that time the loss of sensation has spread downwards to the wrist, recovery occurring at the same time from above downwards. Complete recovery occurred twelve weeks after injection—that is, six weeks after anaesthesia was first noticed.

If the condition were due to a specific localized toxic action of the Schick reagent one would expect it to occur with greater frequency. Its apparent rarity suggests that injury to a cutaneous nerve twig, either by trauma or by the introduction of toxin, is the more likely of the two explanations suggested by Dr. Miles Orpwood. If a similar condition ever follows the injection of Dick or Moloney reagents or of Schick control fluid it would suggest that the anaesthesia in the case recorded above was not produced by diphtheria toxin.—I am, etc.,

JOYCE WRIGHT.

Wellcome Research Laboratories, Beckenham, April 18th.

Treatment of Diphtheria

SIR,—May I dissent from Dr. J. C. Lyth's minimum dose of 30,000 units (*Journal*, April 20th, p. 852). I will only quote one case, which occurred yesterday.

I was called in to a girl, aged 2 years, who had been continuously vomiting for twelve hours, and had a terrible throat—one could smell her breath on entering the room. I took a swab and injected 1,000 units. This morning, on hearing that the swab was positive, I went to warn the mother that an ambulance would call and take the child away. The mother was horrified. "But she's practically well!" she said. And so it appeared, as the child was running about devouring a large hot-cross bun.

It is true that I also gave the child merc. cyan. and diphtherinum, but in such grotesquely infinitesimal doses that no physician in his senses would admit that they could have had anything to do with the child's remarkable amelioration of health. Obviously the 1,000 units had sufficed. Why, then, give 30,000?—I am etc.,

RICHARD HOPE, M.R.C.S., L.R.C.P.

London, N.W.3, April 19th.

Diphtheria Immunization

SIR,—Will Dr. W. Smith (*Journal*, April 27th, p. 898) please recognize my real motive in describing cases in which three injections of T.A.M. had failed to give protection—namely, the want of means of storage of serum at a proper temperature and consequent failure.

I have just read his letter. As I stated in mine, I am forced by circumstances to keep my serum in a drawer in a hall (table), but beneath a wall thermometer, at which I glance frequently. I have just gone into that hall and read the thermometer, which registers 15.5° C. I noted it yesterday—15° C.; it averaged 10° C. in the month of March. I take four packets from the drawer. There is a notice on each.

1. Diphtheria antitoxin. "This antitoxin, if kept at a temperature between 32° and 60° F. (0° and 15° C.) possesses excess potency sufficient to ensure the stated number of units per c.cm. until the expiry date."

2. Anti-pneumococcus serum, Types I, II, and III combined. "Preserve in a cold place—refrigerator temperature (5° to 15° C.) recommended."

3. Anti-streptococcus serum. Same notice.

4. Scarlet fever streptococcus antitoxin for the Schultze-Charlton reaction blanching test. "If kept between 4.5° and 15° C. this antitoxin may be employed after the date stamped, although its potency, in common with all biologicals, lessens with age."

Dr. Smith says of my cited cases: "This type of occurrence is very harmful to the medical profession at a time when there are so many detractors ready to pour cold water on any real advance in preventive medicine." I must be a detractor at that, a West of Ireland one, too, for what I want to do is to pour cold water—icy cold water—around my preventive serum to keep it below 15° C. But I think even the foolish virgins did not blame the lamps.

Seriously, to-day—a bright, sunny day here—I put my wall thermometer in the back of my car, having rolled it up first in a woollen rug, and over that my heavy tweed top-coat. Now when I took it out it registered 18.5° C. I know very well that it is not beyond the powers of technical experts to construct for doctors' cars a "refrigerator gadget" in which we can carry serum.

How can we accept evidence of this or that dosage of serum when we do not know how the user stored it? I am firm in the belief that if sera were given a chance by being properly stored at refrigerator temperatures, made compulsory on all users, the mortality of all diseases for which sera are used would be reduced, and that sera would be more generally used in general medical practice.—I am, etc.,

C. H. FOLEY.

Athenry, April 28th.

Thrombo-angiitis Obliterans

SIR,—I should like to congratulate Professors Telford and Stopford on their excellent article on "Thrombo-angiitis Obliterans" in the *Journal* of April 27th. I have been extremely interested in this mysterious disease for some years, and two years ago you kindly published an article of mine on a series of cases of intermittent claudication treated by the injection of muscle extract with favourable results. I have since followed up most of these cases, and have had the opportunity of treating some fresh ones, and I am still impressed by the favourable results in the majority of cases. I agree with Professors Telford and Stopford that in many of the cases treated by this method the improvement is only temporary, but if one repeats the course of injections two or three times a year the improvement is maintained. With these injections there are no febrile or other reactions as Professors Telford and Stopford state, and they have the advantage that they can be given in the consulting room or out-patient department with no discomfort whatever to the patient, who is able to walk home, or to his business, immediately after the injection. I have had two members of one family suffering from intermittent claudication: one received treatment by me, and is at present leading a useful life, playing golf, etc.; his brother, who lives in a distant town, received no treatment by muscle extract, and has had to have both his legs amputated for gangrene.

If Professors Telford and Stopford's operative treatment proves to give permanent results, then I should advocate their treatment in preference to mine, but if the results prove only temporary, I should prefer the injection treatment I have advocated; and also for those patients who, particularly in the early stages, cannot be persuaded to undergo operative treatment.—I am, etc.,

MAURICE NEWMAN.

Liverpool, April 28th.

The Theory of Vision

SIR,—The view that the stimulation of the cones of the retina is indirect and takes place through the photochemical decomposition of the visual purple by light seems to be proved and a fact. How can the colourless transparent cones be directly stimulated by light? How does this direct stimulation agree with the laws of photochemistry? According to Grotthus's law no effect can be produced by light unless it is absorbed.

The duplicity theory is supported almost entirely by misstatements. This theory is not only photo-chemically untenable but it is biochemically untenable. The cones appear to have no power of being directly affected by light, but are surrounded by rods and liquid visual purple, which is strongly affected by light. As the visual purple is regenerated more quickly under the stimulus of light than in darkness, it must have a function in the day-time. As Helmholtz stated, there is no evidence that the rods are percipient elements, but as nerve elements regulating the supply of visual purple round the cones every fact of vision is explained.—I am, etc.,

F. W. EDRIDGE-GREEN.

Board of Trade, S.W.1, April 27th.

Treatment of Fractures

SIR,—Professor Hey Groves, in his article on this subject in your issue of April 20th (p. 813), enunciates a principle with which all surgeons must be in entire agreement. But the examples he enumerates to prove his point must surely be the most outstanding failures and misfortunes that he has heard of in the whole of his wide experience. Or are they the most extreme cases taken from the data collected by the Fracture Committee of the British Medical Association? They are not exactly "fair examples of why so many fractures are slow in recovery and why so many patients suffer permanent disability." They surely cannot be accepted as a true reflex of the results obtained by the present treatment of fractures in our hospitals. It is hard to believe that any of the cases enumerated were treated by "surgeons of known repute." There can be few hospitals of 100 to 300 beds in industrial towns or cities which are not equipped with portable *x*-ray apparatus; which have not one ward—usually male—solely devoted to the treatment of fractures and accident cases on the lines of treatment described by Dr. Böhler. Few students can be taught to "daily move" the elbow after a supracondylar fracture, and it seems incredible that even the most recently qualified medical officer would not immediately suspect a fractured os calcis in a man who "fell from a ladder on his feet." It must surely be many years since the specialists plated the open fractures described in Cases VIII and IX or since a closed fracture was openly reduced and no subsequent immobilization employed. The casualty officer in hospitals of to-day is usually next in seniority to the resident surgical officer, and treats ambulatory fractures much more efficiently than was the case some years ago. The drawings on page 815 are a terrible sight. But they are scarcely the type of result obtained from the present-day treatment of fractures in either the voluntary or municipal hospitals which have not as yet introduced an "organized fracture clinic." The bad results in the cases described appear more the result of misapplication of principles of treatment than of lack of organization.—I am, etc.,

Sheffield, April 24th. H. BLACOW YATES.

SIR,—It is to be hoped that the lay press will not see Professor Hey Groves's paper in the *Journal* of April 20th; otherwise, the public may be thrown into a state of grave alarm at the prospect of being admitted to a general hospital should they have the misfortune to sustain a fracture. A more just and balanced comparison between organized and ordinarily efficient general wards would certainly not have shown such a startling and disquieting picture as Professor Hey Groves has drawn. It would also, to my mind, have carried more weight in the cause which he advocates.

Under the heading "Some Illuminating Figures" a really shattering case is made out against unorganized clinics, all the more so when the table is prefaced by the remarks: "By the latter it must not be thought that unskilled or neglectful treatment is implied. On the contrary, the majority of cases have been under the care of hospital surgeons of known repute, but there has been no unity of control, no continuity of treatment, and no 'follow-up.'" The explanation of the disgraceful state of affairs as shown in the "statistics" is not far to seek when we read further on: "But mere numerals make very little appeal to most of us, and it may be helpful to consider individual cases in order to understand the reasons for prolonged and permanent disability."

Case I was a typical Pott's fracture treated as an out-patient on Saturday, a back splint being applied by a casualty officer who was only recently qualified. True the patient was told to report on Monday, but on the advice of his own doctor failed to do so. In Case II ischaemic paralysis was consequent on a fracture of the lower end of the humerus, treated in a casualty department, presumably not by a surgeon of known repute. In Case III a man 27 years old was sent home in an "unpadded" plaster cast, although he suffered from a fracture of the tibia and fibula. Retribution, and gangrene, rapidly followed.

If such cases of gross maltreatment go towards the compilation of the statistics given—and apparently they do, for Professor Hey Groves states, "These three cases are examples of what is happening with great frequency"—then I submit that the value of the statistics has been gravely detracted from.

Case IV deals with the old story of *x*-ray examination in one plane only, but from the drawing it is evident that the head of the humerus must have shifted its position in a remarkable manner after treatment had been given. How else could the spherical articular surface first face (as shown in drawing A) away from the lower end of the humerus, and, secondly, appear (as in B) facing almost diametrically opposite, towards the elbow?

The rest of the illustrative cases likewise make very tragic reading, but I feel sure that they are not typical of the average results of the work done by competent general surgeons or visiting surgeons to cottage hospitals. It is unfortunate that such an authority as Professor Hey Groves has contrasted the good results of organized fracture clinics with fifteen cases of gross maltreatment, many of which are an outrage to common sense, far less to medical education and knowledge. A comparison between the results of fracture clinics and those of even averagely well run general wards would have been of more value in convincing the general surgeon that fracture clinics are desirable, and I know that many surgeons will resent losing charge of fracture cases, although fracture clinics are bound to come.

I hardly think that there will be universal agreement that "these cases provide *fair examples* of why so many fractures are slow in recovery and why so many patients suffer permanent disability."—I am, etc.,

Glasgow, April 20th. R. S. KERR.

SIR,—The facts brought forward by Professor Hey Groves in his article on fractures are most illuminating and interesting, especially in those cases where fractures were misdiagnosed or mistreated. When I first left my training school in London for experience in provincial hospitals I was surprised and shocked at the type of work expected of me. I saw practically all the casualties and out-patients, as the local "honoraries" (G.P.s) seldom had time to turn up. I, but a month qualified, was expected to pick out cases for the waiting list for admission, treat accidents, see many acute cases, treat fractures as best I could (often with bad results), and answer and advise experienced general practitioners who sent up cases with letters. It was more by luck than good judgement that nothing serious happened.

In a second similar hospital things were better, and I had had more experience; but even here the local

general practitioner "honoraries" left a lot of their major surgery, and when they did come the work was hurried. One feels that this type of thing is uniform, except, perhaps, where a proper specializing staff is present, as at most of the teaching hospitals, most of the bigger London and provincial hospitals, and the municipal hospitals.

Professor Hey Groves says: "Actually Mr. A. [the consulting surgeon] has never seen the patient, and the only active treatment has been carried out by a house-surgeon, qualified a couple of months." This is happening constantly at hospitals to hundreds of cases in every branch of medicine, apart from fracture cases. The cure seems to be State control of the hospitals, in which one or more experienced salaried resident medical officers should always be in charge. The newly qualified men should do their first appointments under strict *practical*, and not nominal, supervision.—I am, etc.,

April 24th. A. A. A.

Acute Iodine Burn

SIR,—Dr. McNair Aitken's case of acute iodine burn, published in the *Journal* of February 23rd, prompts me to offer a note on the subject and to record a case that came under my observation last year.

A South Indian banker, heavily built, dark skinned, given to furunculosis off and on, aged 40 years, while attending to his work on the evening of April 9th, 1934, got a small contusion from his desk on his left elbow. A little later he came to my clinic, and finding me out he took from the assistant at his own instance a bottle of tr. iodi mitis (methylata). Two days later he attended the clinic much perturbed at the condition of his arm. The skin over the elbow and the proximal part of the dorsal surface of the forearm for an area roughly 4 in. in diameter was raised, red, warm, and covered over with unbroken vesicles varying in size from a pinhead to a split pea, and around and beyond this patch the forearm exhibited oedema pitting on pressure and extending to the distal third of the forearm. He had also slight fever and definite headache.

The case was labelled "iodine dermatitis," and the diagnosis was confirmed by an interesting observation in which the patient gladly co-operated. Tr. iodi from the same bottle was painted over a small boil on his belly and over a healthy area on his right thigh: also a freshly prepared similar solution was painted on a boil on his right buttock and on a healthy site on his left buttock. In each case the area painted was roughly the size of an Indian 8-anna bit, and three coatings were given. By evening each area was erythematous and more or less swollen, surrounded by, and definitely demarcated from, the untouched skin. Next morning the sites were crops of closely packed tiny vesicles, and in addition the site at the right buttock was surrounded by oedema. This observation, though it gave a little inconvenience to the patient, clinched the diagnosis and served the purpose of having good psychological influence on the patient, who so far was locating the fault in the iodine solution. This demonstration made him realize that his skin was sensitive to iodine. He, however, said that, though he had not used tr. iodi for the six months preceding, he had been using it before with impunity. History revealed that he was in good health previously except for some boils now and then, and that he had taken no heavy metal salts, which some people of his type are wont to take for "strength and blood purification."

He was put on a diaphoretic stimulant mixture, and was treated locally with starch-boric poultice to begin with and with zinc-boric-kaolin dusting powder later. He received intravenously sodium thiosulphate in glucose, and for boils was painted with acriflavine in spirit. The vesicular eruption became less angry within twenty-four hours, but the oedema went on extending down till it arrived at the fingers in four days. Within ten days the eruption had dried and peeled off and the oedema cleared. A fortnight later application of iodine still caused topical erythema, though no vesiculation.

Iodine in pure forms and stronger strengths is an irritant, and so its application in such forms will cause skin burns, as also the use of exposed (and so concentrated) and old, badly stocked (and so chemically decomposed) solutions of iodine. In ordinary strengths (that is, 2½ per cent. solution in spirit) it is considered to be innocuous and is extensively used in first-aid and surgical work. In fact, it enjoys the reputation of being the most popular local application. My experience tells me that cutaneous sensitiveness to tr. iodi mitis is not as rare as it is supposed to be. Extreme cases are undoubtedly rare, but cases which display minor degrees of sensitiveness in the way of local itchiness, topical transient erythema, or even tiny vesiculation are not. Curiously enough, most of my patients showing minor sensitiveness to iodine have had dark skins. Fair skins tolerated it better and the intermediate type best. Some cases on record also bear testimony to the fact that iodine in usual strength is not perfectly innocuous. There are cases where its application occasioned much inconvenience and suffering.[1 2 3] Also there is recorded a case of a female operated upon successfully for femoral hernia, who died from iodine dermatitis.[4] I also read of a curious case[5] where local application on the arm for rheumatic pains led to generalized vesiculation the next day which kept the patient in bed for six weeks. A medical man unduly sensitive to iodine even reported an asthma-like attack following immersion of the hand in iodine lotion.[5]

Whatever the mechanism—chemical or allergic—underlying this state of lowered threshold of sensitivity in some cases, the lesson one gathers is that caution should be exercised in the preparation, storage, and use of tr. iodi, and that as sensitiveness is detected only after the drug has been applied, a watch should be kept to note any such manifestation, so that appropriate treatment may be applied early.—I am, etc.,

Paungde, Burma, March 25th. R. L. SONI, M.B., B.S.

The Climacteric

SIR,—I should like to thank Dr. G. B. Bellamy for his appreciative reply (*Journal*, April 20th, p. 853) to my letter of April 6th. I still, however, do not understand why he considers that psychological treatment is contra-indicated in all cases of psychical disturbance occurring at the menopause. He holds that the "woman who is affected in this particular way has been potentially psychopathic"; endocrine imbalance may be but the spark which fires the train. Does not this opinion suggest in itself the possible value of the psychological approach to the solution of the problem?

Again I agree with Dr. Bellamy that in a case of fire we should "strive to extinguish the spark which fires the train at its kindling," but I do not look upon this as an alternative. On the contrary, I consider it the first essential, the necessary preliminary to any later reconstructive work. The fire extinguished, the next step requires careful thought. Dr. Bellamy's picture of a structure blown up by the explosion brings before our eyes a condition of mental incapacity inaccessible to psychological treatment. Fortunately, however, such extreme cases are the exception. More frequently some reconstructive work is possible; it is often called for. Even if we do not agree with Robertson that careful living in the middle years is the best insurance against senile insanity, it is certain that the onset of mental trouble at the menopause indicates the

[1] *British Medical Journal*, 1930, ii, 162.
[2] Ibid., 1930, ii, 194.
[3] Ibid., 1931, i, 14.
[4] Ibid., 1930, ii, 100.
[5] Ibid., 1933, ii, 42.

presence of some faulty adaptation to life, which, if not remedied, makes the prospect of a healthy old age problematical. Apart from senile insanity, the more frequent condition of senility is a condition to be avoided as far as possible, spelling as it does not only unhappiness for the patient herself, but also for those with whom she comes in contact: Rutherford, in fact, maintains that senility is the greatest insanity-producing period of life. However this may be, even in the lesser forms of mental difficulty in old age a vicious circle tends to be established.

On every count, therefore, the physician should utilize here as always the method of treatment which best affords help. Where endocrine therapy is indicated this should, of course, be instituted. But endocrine therapy does not necessarily contraindicate psychotherapy, either coincidentally—when the two may have important adjuvant action—or later. In some cases psychotherapy alone is required. I refer to those cases in which the psychological factor is the precipitating as well as the underlying cause at work: those patients, in short, who exemplify the fact that the presence of a physical abnormality does not necessarily mean that the symptoms complained of are due to this abnormality. Moreover, there are definite psychological reasons why the climacteric favours the onset of mental imbalance. Women who regard the menopause as a time of illness—and they are not infrequent—tend to approach this period of life with fear, a state of mind not conducive to health, if it does not actually precipitate a mental breakdown. These being the facts, I am puzzled that Dr. Bellamy should think that psychotherapy ought to play no part in the treatment of some cases of mental disturbance at the menopause. It affords help in mental illness occurring at other times of life. Why, then, should it not do so at the climacteric?—I am, etc.,

London, W.1, April 22nd. HILDA WEBER, M.D.

Major Hysteria

SIR,—In an article under the above heading, by Dr. W. Ritchie Russell (*Journal*, April 27th, p. 872), a symptom is omitted which I have found fairly constant in female subjects suffering from that malady—namely, the difference of temperature in the axillae, a puzzling feature, and one for which I have never come across a satisfying explanation. In the right axilla (chiefly) the temperature may range from 100° to 104° F., while in the left axilla it is normal. If the former only is taken the error of diagnosing the condition as one of influenza is easily made, especially if—as frequently happens—no other marked objective sign is featured.—I am, etc.,

Alloa, April 27th. D. M. MACDONALD.

Sterilization of Women: The Legal Position

SIR,—I am delighted to have Mr. Binney's assurance that he is not suffering from any confusion of thought. It is, of course, no fault of his that the legal position of sterilization must now appear to the remainder of your readers as something like a ball of wool which has been played with by a kitten.

May I recall that my original contention had nothing to do with the law of larceny or the ethics of sterilization, but dealt solely with the practical position of surgeons and patients at the present day? It is not, I think, in dispute that a surgeon is entitled to perform on any patient, with his or her consent, any operation for which there is a valid medical reason. In the present state of scientific opinion sterilization on well-established "eugenic" grounds would seem to fall clearly within this principle. In support of this contention I have appealed to the present practice of the courts in regard to other non-essential operations, such as cosmetic operations, and, further, to the notorious fact that "eugenic operations" are frequently performed with complete impunity to all concerned. The only final arbiter in the dispute would be a higher court, and in the absence of an indication that any form of prosecution would follow operations for eugenic sterilization a final decision in the near future seems unlikely. The position may fairly be called a "stalemate."—I am, etc.,

London, April 29th. LETITIA FAIRFIELD.

*** This correspondence is now closed.—ED. *B.M.J.*

Anaesthesia for Throat Operations on Children

SIR,—After quoting the authority of the Council of the Association of Anaesthetists of Great Britain and Ireland, the late Chief Medical Officer of the Board of Education goes on to state in his annual report for 1933:

"In the circumstances it is the bounden duty of every school medical officer to review the arrangements under which his authority makes provision for the performance of operations for the removal of tonsils and adenoids. If it then appears that chloroform or chloroform mixtures are employed as a routine measure, and not merely for exceptional cases, he should endeavour to arrange that the practice be discontinued. If a satisfactory arrangement cannot in this way be secured, it will be for the authority to consider the making of entirely new arrangements."

Admitted that a satisfactory dissection tonsillectomy cannot be done under a "one-shot" anaesthetic and therefore some continuous administration is required, it will be generally agreed that ether administered by a tube or by Boyle's gag is quite satisfactory. It remains, then, to decide on the induction anaesthetic. In this routine work economy of time, money, and effort should be considered. Provided the anaesthetist is skilled in the administration of chloroform it easily comes first, but unless the skill is forthcoming probably any other induction is safer. I should like to suggest that where a skilled anaesthetist is employed the question should be left to the anaesthetist and the surgeon, as is usually the case.—I am, etc.,

Uppingham, April 20th. F. HERBERT WALLACE, F.R.C.S.Ed.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

The General Board gives notice that the composition fee for all medical students and for other students reading for the Natural Sciences Tripos, Part I or Part II, or for the Preliminary Examination in Natural Science, will be as follows: For undergraduates in their first, second, or third year, an annual composition fee of **£45**, payable in three equal terminal instalments of **£15**; for students in their fourth year, a terminal fee of **£8**.

UNIVERSITY OF LONDON

LONDON HOSPITAL MEDICAL COLLEGE

The first open entrance scholarship, of the value of **£100**, offered for the session **1935–6**, has been awarded to Mr. F. C. Courtice of New College, Oxford.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The **1935–6** course of study, which qualifies students to sit for the University of London Diploma in Public Health, covers a period of nine calendar months' whole-time work, beginning on September **30th, 1935**. The fee (**54** guineas) covers the cost of the ordinary lectures and demonstrations, visits to centres of public health interest, the necessary practical work with the medical officer of health, and instruction in infectious diseases. One place will be allotted without fees, after open competition on June **27th** and **28th**, the successful candidate being awarded the Fishmongers' Company studentship. Applications to compete for this studentship must be sent to the secretary by June **15th**.

Inquiries in regard to this course, or the courses of study in bacteriology, epidemiology and vital statistics, industrial psychology, tropical medicine and hygiene, etc., should be addressed to the secretary, London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—*With Special Knowledge of Psychiatry*: D. Prentice. *With Special Knowledge of Mental Deficiency*: D. S. Clark.

UNIVERSITY OF DUBLIN

TRINITY COLLEGE, SCHOOL OF PHYSIC

Professor Joseph Barcroft, C.B.E., F.R.S., University of Cambridge, has been appointed the Dr. John Mallet Purser Lecturer in Trinity College, Dublin, for 1935. He will deliver the lectures on June 25th and 26th, and his subjects will be "The Mammal Before and After Birth" and "Chemical Conditions of Mental Development." The lectures will be given in the Department of Physiology at 5 p.m., and will be open to all medical men and medical students.

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have passed in the subjects indicated:

SURGERY.—M. Belo-Zercovsky, A. E. Hassan, K. P. Pauli, J. Richter, L. E. Sealy, H. M. R. Waddell.

MEDICINE.—J. H. Bentley, F. W. Treadwell, J. F. L. Walley, W. C. Winterbottom, J. L. Wredden.

FORENSIC MEDICINE.—J. H. Bentley, F. H. Holder, R. G. Joyce, N. O. Lucas, K. P. Pauli, A. Ponder, J. F. L. Walley, J. L. Wredden.

MIDWIFERY.—B. M. Jensen, P. D. Lynch, G. M. Williams.

The diploma of the Society has been granted to M. Belo-Zercovsky, J. H. Bentley, A. E. Hassan, J. Richter, L. F. L. Walley, and W. C. Winterbottom.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

A comitia of the Royal College of Physicians was held on April 25th, with the President, Lord Dawson of Penn, in the chair.

Fellowship

The following were elected Fellows of the College:

Sir Robert Muir, M.D.Ed. (Glasgow); Jonathan Campbell Meakins, M.D.McGill (Quebec); Hazel Haward Chodak Gregory, M.D.Lond.; Alfred Douglas Bigland, M.D.Liverp. (Liverpool); Hugh Hadfield Carleton, M.D.Oxf. (Bristol); Reginald Hugh Simpson, M.D.Lond.; John Heatley-Spencer, O.B.E., M.D.Lond., Colonel A.M.S.; Stuart Jasper Cowell, M.B.Camb.; Christopher Howard Andrewes, M.D.Lond.; George Reid McRobert, M.D. Aberd., Major I.M.S. (Madras); Alexander Cawadias, O.B.E., M.D.Paris; Philip Cyril Powter Cloake, M.D.Lond. (Birmingham); Keith Douglas Fairley, M.D.Melb. (Melbourne); John Norman Cruickshank, *M.C.*, M.D.Glas. (Glasgow); David Clark Muir, M.D.Lond. (Hull); Robert Platt, M.D.Sheff. (Sheffield); John Brander, M.D.Ed.; William Fielding Addey, M.D.Lond. (Ipswich); Reginald Thomas Brain, M.D.Lond.; Sir Weldon Dalrymple-Champneys, Bt., M.D.Oxf.; James Maxwell, M.D.Lond.; William Moses Feldman, M.D.Lond.; Alexander Macdougall Cooke, M.D. Oxf. (Oxford); Edward Rowan Boland; John Alexander Charles, M.D.Durh. (Newcastle-on-Tyne); William Evans, M.D.Lond.; Thomas Cecil Hunt, M.D.Oxf.; Henry Yellowlees, O.B.E., M.D. Glas.; Robert Alexander McCance, M.D.Camb.

Membership

The following were admitted members of the College:

Francis Ray Bettley, M.B.Lond., L.R.C.P.; Cyril Robert Birnie, M.B.Lond., L.R.C.P.; Simon Redvers Bray, M.B.Melb.; Anthony Caplan, M.B.Lond., L.R.C.P.; Olive Mary Capper-Johnson, M.B.Oxf.; Mohammed Fathi El-Seifi, M.B.Cairo; Ernest Hywel Evans, M.B.Wales; Philip Rainsford Evans, M.B.Manch., L.R.C.P.; Gordon Wilkinson Goodhart, M.D.Camb.; George Bruce Hail, M.B. Sydney; Howard Bluntisham Hodson, M.D.Lond., L.R.C.P.; John Macdonald Holmes, M.B.Leeds, L.R.C.P.; Terence Graham Faulkner Hudson, M.B.Lond., L.R.C.P.; George Norman Myers, M.D.Durh.; Bernard Clive Nicholson, M.B.Camb.; Ronald Sherington Ogborn, M.B.Lond., L.R.C.P.; John Hammond Palmer, M.D.McGill; Denis Adrian Pritchard, M.B.Sydney, Surgeon Commander R.A.N.; Edward George Savers, M.B.New Zealand; Eric Frank Scowen, M.D.Lond., L.R.C.P.; Joel Nathan Strauss, M.B.Manch., L.R.C.P., Edward James Starbuck Woolley, M.B. Lond., L.R.C.P.

Licences

Licences to practise were granted to the following candidates:

B. Agranat, I. J. Amorin, A. W. H. Ashbery, A. C. Ashton, E. C. Atkinson, I. J. Bacon, P. N. Bardhan, A. J. E. Barlow, A. H. Barwell, S. M. Basu, P. W. G. Baxter, T. L. S. Baynes, B. P. Bhattacharjya, Beatrice A. Blake, P. I. Boyd, T. McM. Boyle, Kathleen G. Brimelow, A. S. Bullough, W. P. Cargill, R. S. Carpenter, J. N. Cave, A. E. Cohen, J. L. Collis, W. T. Cooke, J. S. Cookson, R. W. Cope, L. McL. Curtiss, J. V. Dacie, G. C. Dansey-Browning, R. B. Davis, A. R. O. Denton, G. W. N. Dunn, E. H. Evans, W. E. F. Evans, Barbara J. Fisk, Margaret FitzHerbert, Evelyn J. Forgan, Sheila M. Franklin, A. H. T. F. Fullerton, L. R. Gardner, E. Gareh, R. J. Gilpin, S. Ginsberg, C. Hardwick, A. Harris, J. R. G. Harris, A. J. Helfet, A. T. Hunt, M. Hynes, F. J. G. Jefferiss, A. E. Jowett, R. Kauntze, E. L. Kirstein, A. M. Lasnick, D. C. Lavender, J. H. Lawrence, H. T. Laycock, V. Lewis, J. J. Lichterman, H. S. Lillie, P. S. Luffman, L. N. G. Lytton, A. B. Marshall, Bertha Marston, F. R. R. Martin, R. L. Mehra, A. G. H. Menzies, L. Millward, W. T. M. Moar, R. L. Moody, S. H. Navidi, J. G. Nel, D. A. O'Reilly, J. F. Paterson, J. B. Phillips, E. E. Pochin, G. Pollack, P. Ramchander, B. Reeves, J. Revans, J. Robyns-Jones, J. R. Rose, H. H. Samson, C. W. A. Searle, A. Shapiro, H. S. Sharp, B. J. Shaw, R. A. Shove, P. N. Shutte, A. H. M. Siddons, G. R. Taylor, J. W. Todd, Mary R. Thompson, W. F. Viret, A. A. Wailer, T. J. Walters, F. G. Ward, P. J. Wenger-Byrne, Catherine M. Whitestone, S. R. F. Whittaker, A. G. M. Wilson, E. B. Woodhouse, N. R. Wyndham.

Diplomas

Diplomas in Tropical Medicine and Hygiene were granted, jointly with the Royal College of Surgeons, to the following candidates.

D. S. Abeyagunawardene, J. C. Anders, G. F. Bartholomeusz, S. M. Basu, G. B. Beckner, F. Bell, Shu-Ying Chao, L. S. L. de la Harpe, G. A. Dragatsi, F. W. Farrar, I. J. Fernando, K. M. Fozdar, F. N. Grannum, T. I. Ibrahim, A. Lucas, R. B. Mehta, B. Patnaik, W. M. Quin, M. J. A. Sandrasagra, O. S. Seh, A. E. Stevens, R. L. Tiruchelvam, H. G. H. Waters, Enid M. O. Will, W. R. Williams

Sir Edmund Spriggs will deliver the Croonian Lectures on "A Clinical Study of Headaches" on May 14th, 16th, and 21st, at 5 p.m., at the College.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The President, Sir Holburt Waring, returned from Australia on April 24th. He was met at Waterloo Station by three members of the Council of the College, Mr. C. H. Fagge, Professor G. E. Gask, and Mr. G. Gordon-Taylor. Others present on the platform were Mr. W. McAdam Eccles (a former member of the Council), Mr. Kennedy Cassels (secretary of the College), and Mr. Horace Rew (director of examinations). It will be remembered that the President left London in January in order to open the new building of the Royal Australasian College of Surgeons in Melbourne, and it was peculiarly appropriate that among those who welcomed the President home were Mr. Fagge, who, as a former vice-president, has personally conveyed the greetings of the Council to the Royal Australasian College when he visited Australia in 1932, and Mr. Gordon-Taylor, who went to Melbourne last November as one of the examiners to conduct the Primary Fellowship examination in Australia and New Zealand.

A meeting of the Council was held on April 25th, with Sir Holburt Waring, the President, in the chair.

An offer by Sir Matthew Thompson to present to the College a portrait by him of Sir D'Arcy Power, the honorary librarian, was accepted with grateful thanks.

It was decided that the subject for the Jacksonian Prize Essay for 1936 should be "Hydronephrosis."

The following hospitals were approved for the six months' post of resident house-surgeon or other responsible post in charge of general surgical patients in the wards of a general hospital required of candidates before admission to the final examination for the Fellowship: Halifax Royal Infirmary, resident surgical officer and first house-surgeon; Metropolitan Hospital, Kingsland Road, E., senior house-surgeon.

William Thomas Gordon Pugh and Henry Edmund Gaskin Boyle, Members of twenty years' standing, were elected to the Fellowship of the College.

The Council agreed with pleasure to the suggestions of the Robert Jones Memorial Fund Committee for the foundation of a Robert Jones Professorship of the Royal College of Surgeons of England for an annual lecture or lectures on some subject connected with orthopaedic surgery (sum allocated £1,000); and for the foundation of a travelling research fellowship to be awarded alternately by the University of Liverpool and the Liverpool Medical Institution jointly, and the Royal College of Surgeons of England (sum allocated £2,000).

Sir Holburt Waring was nominated as representative of the College on the National Council for the Disposition of the Dead.

The date of the reception to be given for the International Neurological Congress was fixed for July 30th.

A diploma of Fellowship was granted to Frederick Ronald Edwards.

Diplomas in Tropical Medicine and Hygiene were granted, jointly with the Royal College of Physicians, to the twenty-five candidates whose names are published in the report of the meeting of the Royal College of Physicians of London in this issue.

Medico-Legal

SOME CHANGES DURING THE REIGN

[FROM A LEGAL CORRESPONDENT]

Although twenty-five years is not a long period, either in the history of the common law or in the history of medicine, a glance at the statutes passed during the reign of King George V reveals a number of legal changes of medico-legal interest. To enumerate—still less to describe—them all were impossible in a brief review, but a few of outstanding interest may be noted.

An important change in the lunacy laws was made within the last few years. It is upon the doctor that the unpleasant duty devolves of certifying that a person is insane, and with a view to protecting members of the profession from the risk of being sued for damages for wrongful certification the Lunacy Act which was in force in 1910 provided that any such action might be stayed if the court were of opinion that there was no reasonable ground for alleging that the doctor had been guilty of negligence. In spite of this safeguard many actions of the kind were brought. In one notorious case proceedings, which reached the House of Lords, involved enormous cost to the defendant. In a later case application was made to stay the proceedings; a judge in chambers made the necessary order, but the Court of Appeal reversed his decision, holding that the case should be tried by judge and jury. At the conclusion of the plaintiff's case the jury intimated that they had heard enough, and returned a verdict for the defendant. His costs amounted to a very considerable sum—no part of which he was able to recover from the plaintiff.

These cases, and others like them, made, or were believed to make, the medical practitioner very chary about granting lunacy certificates on any pretext whatever. After all, there was and is no Act of Parliament to compel a doctor to "certify"; nor (it is conceived) could any action be brought against him for refusing to do so. Whatever may have been the reason for the change, the law was altered. No action can now be brought against a doctor for granting a lunacy certificate, save by leave of the court, and leave is not given unless the court is satisfied that there is substantial ground for the contention that the person against whom it is sought to bring the proceedings has acted in bad faith or without reasonable care. It will be observed that this enactment makes it incumbent on the plaintiff to show *affirmatively* that he has a case, and this he must do by affidavit. Seldom has any Act of Parliament relating to procedure been as effective as this has been. We believe we are right in saying that no action of the kind referred to has been brought to trial since 1930, when the Act came into force. The Legislature has thus given an ample measure of protection to those who are called upon to grant certificates. This fact should lead to the more fearless discharge of an important duty.

A recent change in procedure which concerns the trial of civil action by judge and jury is a matter of concern to the medical profession. Until last year it had been the rule, from time immemorial, that parties to a civil action at common law—whatever the *cause* of action—have a right to a jury. This rule was subject to this exception: that the court might order an action which involved matters of scientific inquiry to be tried otherwise than by a judge sitting with a jury. Any action for malpraxis brought against a doctor was always tried by judge and jury. Last year, however, Parliament, in its wisdom, thought fit to alter this fundamental principle of the common law by taking away the *right* to a jury in most common law actions. A notable exception is the action for libel or slander; but the right to a jury in an action for malpraxis has been taken away. Whether such an action shall be tried with a jury is now a matter for the discretion of the court. A case of alleged malpraxis came before the Court of Appeal at the end of last year, the question being how it was to be tried. The court held that it should be tried by a judge alone, on the ground that it involved the discussion of scientific matters. At the same time it was quite competent for the court to so deprive the plaintiff of his jury on general grounds. Whether the interests of the medical profession are likely to be best protected by "judge alone" or by "judge and jury" is a matter upon which there is room for differences of opinion.

No Act of Parliament passed during the reign has materially affected the status of the medical practitioner. One decision of the court, however, may be noted. It was held in one case that there is a general custom amongst medical men—although not a binding custom—not to charge the widow and children of a deceased medical man shortly after his death. If, therefore, a doctor intends to charge in such a case he must say so, and thus give the patient an opportunity of declining his services and of going to another doctor who will not charge (Corbin *v.* Stewart (1911), 28 T.L.R., 99).

It is also worthy of record that when charging a grand jury at the Birmingham assize in 1914 Mr. Justice Avory pointed out that if a practitioner is informed by a patient that a crime has been committed it is his duty to communicate with the police. In such a case the desire to preserve the confidential relationship which exists between the medical man and his patient must be subordinated to the duty which is cast upon every citizen to assist in the investigation of a serious crime.

If one were asked, "What is the leading characteristic of the reign from the medico-legal point of view?" the answer might well be, "A tendency on the part of those in authority to employ members of the medical profession in the administration of justice"—using that phrase in its widest sense.

The first National Health Insurance Bill was introduced in 1911, and the development of the system, which has gone on continuously since 1913, would have been impossible without the co-operation of the medical profession. The panel doctor is called upon to act not only in a medical but in a quasi-judicial capacity. He stands between the taxpayer and the applicant for sick benefit; and the fact that his decisions are so seldom called in question affords striking proof that the confidence placed by the Government in the medical profession has not been misplaced. Sometimes, too, he acts in a judicial capacity. When a question arises as to the competence or behaviour of a panel doctor it is referred to a tribunal, consisting of two medical men chosen from a panel, and a lawyer appointed by the Minister of Health. Again, when it is necessary to decide whether a particular operation or mode of treatment is, or ought to be, within the competence of an insurance practitioner it is referred to a similar tribunal.

In other respects, too, the doctor now takes a far more active part in the administration of justice than he was called upon to do in former times. With the enormous increase of motor transport, accidents which lead to claims for damages for personal injuries have become far more frequent. And here it should be mentioned that the number of accident cases *reported* forms but a small proportion of those tried, while the number of cases *tried* is but small in comparison with the number of cases settled out of court. At the trial of a "running down" case medical evidence is nearly always forthcoming, and where the parties are not animated with a desire to make costs they will often agree to accept the report of one practitioner or, at any rate, to call but one doctor on either side. Similarly, in the settlement of a claim for damages, it is upon the report of the doctor as to the condition of the plaintiff that the quantum of damages will depend.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons was in committee again this week on the Government of India Bill. A discussion was also arranged on foreign affairs. Standing committees made progress with the Housing Bill and the Housing (Scotland) Bill.

In the House of Lords on April 30th the Vagrancy Bill passed through committee.

Medical Services in Burma

During the consideration of the Government of India Bill in committee in the House of Commons on April 29th, Mr. BUTLER moved a new clause, providing that the Secretary of State might appoint persons to any civil medical service of, or civil medical post under, the Crown in Burma. He said that the clause was exactly similar to the new clause moved in connexion with India. The committee would remember that, when it was discussing Clause 395 in relation to Burma, reference was made to the necessity for a new clause in relation to the future arrangements for the civil medical services of, and civil medical posts under the Crown in, Burma. In the original Bill, as printed, it was stated specifically that there would be a Burma medical service, Class I. That prejudged the question of the future reorganization of the superior medical service in Burma, and, because that question was prejudged, the Government decided to omit those original words in Clause 395 and to move this new clause. Mr. MORGAN JONES asked with what authority the Secretary of State was conferring with a view to arriving at a suitable scheme for the recruiting of the medical service in Burma. Mr. BUTLER replied that the honorary member would remember that this question was discussed on the Joint Select Committee. It was decided to limit the necessity for medical attendance to the purposes which he had described, and it was with a view to coming to some understanding on that point that negotiations were now proceeding between the Government of India and the Government of Burma about the most suitable method of arranging for the Burma medical services. At present, as Burma was a part of India, the medical services were all bound up together, but the Government was allowing discussions to proceed on what would be the exact future of the medical services in Burma, for which the Secretary of State would make appointments.

Mr. MORGAN JONES said he had no objection to that, but he merely wished to say that he understood that the University of Rangoon had a medical faculty, and that it would naturally have a great interest in any arrangements arrived at for the future recruitment of the civil medical service. He very much hoped that these appointments, when they were made upon whatever arrangements might be arrived at by the responsible authorities, might be such as to enable an adequate recruitment of young Burmese for the various medical services in their own country. Mr. GODFREY NICHOLSON asked if the Secretary of State would have power to examine the conditions of pay and service. Mr. BUTLER replied that all the conditions resulting from that recruitment would apply.

The clause was read a second time and added to the Bill.

Licensed Vivisection Premises

On April 29th Mr. GROVES asked the Home Secretary if he would arrange that in the list of places licensed for vivisection in 1934 the names of companies owning such places should be set out and the actual identity of ownership of places licensed for vivisection could be given; and whether places licensed for vivisection could be grouped into categories according to the class of work carried on in them. Sir JOHN GILMOUR replied that the person or body controlling the places registered under the Cruelty to Animals Act, 1876, for the performance therein of experiments on living animals could in most cases be gathered from the registered description given in Table I of the annual return. He would arrange that this should be shown in all cases in the next issue. He was advised that, in view of the variety of the research carried out at the respective laboratories, it was impracticable to group the registered places into categories according to the kind of work done in them.

Alleged Disease Among Coloured Men in Cardiff

On April 30th Captain ARTHUR EVANS asked the Minister of Health if he had any information regarding the outbreak of a rare and complicated disease reported to have affected a number of coloured men in the Bute area of Cardiff, some of whom were engaged in the taking of a cinema film, and resulting in at least half a dozen deaths. Mr. SHAKESPEARE said that the answer was in the negative. Inquiries which had been made had failed to confirm the occurrence of any such outbreak. The Minister of Health was informed that only one coloured man had recently died in this area, and the cause of death was found after a post-mortem examination to be arteriosclerosis and aortitis. Captain EVANS asked if the Minister's attention had been drawn to the report of the Cardiff medical officer of health, published in the *Western Mail* four days ago. Mr. SHAKESPEARE: Naturally we have been in touch with the health authorities in this area, and the information I have given is based on that report.

Durham University

On April 30th Mr. RAMSBOTHAM informed Mr. Martin that the Government had decided to introduce legislation to set up Commissioners to prepare statutes for a new constitution for Durham University in general accordance with the Commission's recommendations. It was hoped to introduce the Bill into the House of Lords before Whitsuntide.

Local Authority and House Fumigation.—Sir HILTON YOUNG, replying to Mr. Thorne on April 29th, said he had received a copy of the jury's recommendation in connexion with the death of two children at Aldershot by cyanide poisoning after their home had been fumigated. He did not think that to enjoin that fumigation should be carried out directly by the local authority would make for greater safety or efficiency.

Increased Telephone Facilities.—Concessions in the postal services were announced to the House of Commons on April 29th by Sir KINGSLEY WOOD. These included the reintroduction of sixpenny telegrams, the extension of the night telegraph letter service, a revision of the parcel post charges, and provision by the end of 1936 of a public telephone in every village in the mainland of Great Britain and Northern Ireland which possesses a post office. An authorized comment added that the Post Office will not be content until telephone service has been made as readily available in the rural and remote districts of the country as it is to-day in the towns. The step now to be taken will, however, go far to meet those urgent needs for telephone communication in case of personal or public emergency which have been persistently voiced by associations of medical men and nurses.

Ribbon Development.—Mr. MACDONALD stated, on April 29th, that the Bill to deal with ribbon development would be introduced in the House of Lords in the course of the next few days.

Milk for School Children.—Mr. RAMSBOTHAM states that from information so far received it appears that at the end of March about 365,000 children and young persons in grant-earning schools in the County of London were being supplied with milk, of whom about 26,700 were receiving milk free of charge.

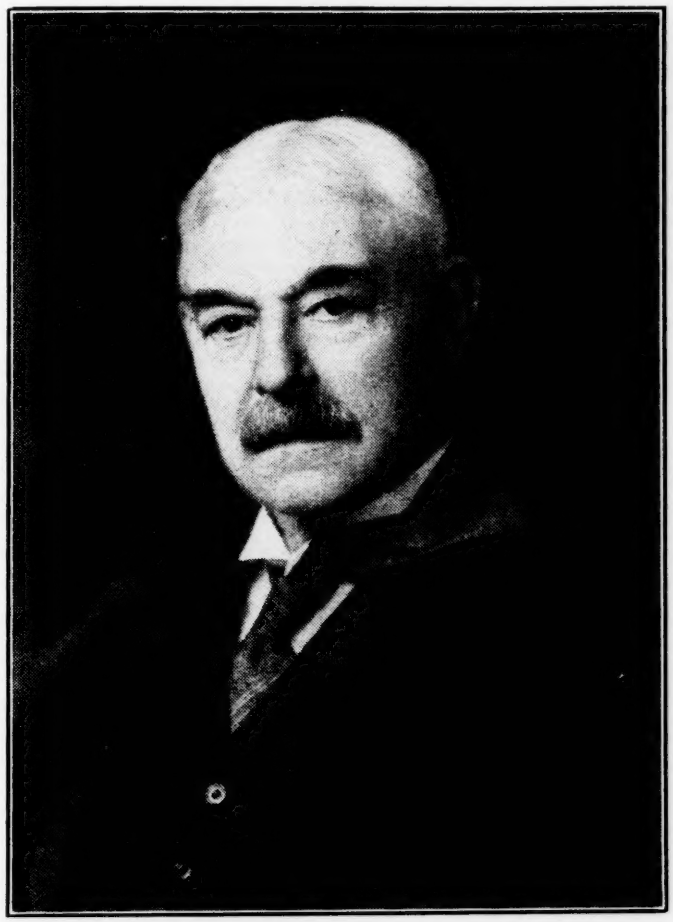
The final report has now been issued of the fourth Public Health Congress and Exhibition, which was held in the Royal Agricultural Hall last November. It contains verbatim reports of the proceedings at the congress and special meetings, among which may be mentioned as of particular interest at the moment the address on the modern cult of physical health by Sir Arnold Wilson, and that on the value to public health of games and athletics by Colonel R. B. Campbell. Another outstanding topic is the water supply of the community and the collection and disposal of refuse and sewage. The report is published by the Congress Organizing Council, 13, Victoria Street, S.W.1.

Obituary

F. W. RAMSAY, M.D., M.S.DURH., F.R.C.S.ED.
Honorary Consulting Surgeon, Royal Victoria and West Hants Hospital, Bournemouth

In the death of Frank Winson Ramsay, who passed away on April 24th, the profession has lost still another of the now rapidly dwindling band of surgeons who, in the early days, contributed to the building up of the art and science of modern surgery.

Mr. Ramsay was born at Greenwich in the year 1863. He was educated at Aske's Grammar School at New Cross, London, and at Montmorency, near Paris; and he afterwards proceeded to the University of Durham. While a student there he captained the University Football Club and the Northumberland Rugby football team. In 1886 he qualified L.S.A. and M.B., B.S.Durh., and was appointed resident medical and surgical assistant at the Royal Victoria Infirmary, Newcastle-on-Tyne.



He began his professional life in club practice in the Winton district of Bournemouth. At that time he was tall and dark and of great physical strength. Busy as he became, he yet found time to promote the development of Winton by becoming a guardian and a member of the Hampshire County Council. He received a commission in the Volunteer Force, ultimately reaching the rank of major, second in command of the 4th Volunteer Battalion the Hampshire Regiment, of which, because of pressure of professional work, he later felt compelled to decline the command. His Winton days were perhaps his busiest: he was known to conduct as many as 300 confinements in the year; and that with the innumerable other calls upon his time made by an extensive general practice.

In 1892, while so occupied, Mr. Ramsay found time to acquire the M.D.Durh.; in 1893, the M.S.Durh. (first-class honours), and the Fellowship of the Royal College of Surgeons of Edinburgh. On becoming M.O.H. of Winton he had taken a public health diploma. In the same year (1893) he was appointed honorary surgeon to the Victoria Hospital, Poole Road, having for two years held the post of medical officer to out-patients there. It had become known to his colleagues that he possessed a flair for operative surgery: that he had a natural facility not only in working at the craft, but also in devising his own technique. In 1898 he became full honorary surgeon to the hospital. He still continued his practice with the help of an assistant; but only for a time. Ultimately he transferred his general practice so that he might devote all his time and efforts to the practice of pure surgery.

In 1925, under the age limit, Mr. Ramsay resigned from the active staff of the hospital, having all those years performed the work of his office efficiently and well. In 1931 he became chairman of the Board of Management of the Hospital, which post he still held at the time of his death. In 1933, at the Representative Meeting at Dublin, he was appointed President-Elect of the British Medical Association, which appointment, to the great regret of all, he relinquished in February of the following year because of failing health. During his active professional life Mr. Ramsay held the appointments of honorary surgeon to the Wimborne Cottage Hospital; surgeon to the St. Mary's Home for Invalid Ladies; and surgeon to the Royal National Sanatorium for Diseases of the Chest, Bournemouth. He was a Fellow of the Royal Society of Medicine, and a member of the Bournemouth Medical Society.

Dr. S. WATSON SMITH, President of the British Medical Association, to whom we are indebted for the above particulars, adds the following personal appreciation:

At the time when Ramsay left his medical school at Newcastle surgery was, one might say, still in its beginnings; but it was not until he had been for several years in general medical practice that he turned his attention to pure surgery. In fact, it was the seeming simplicity of the operation for appendicectomy which determined this choice. His knowledge of the subject he obtained by reading and by practice—by a process of self-education; and he had the wit to discover and the genius to invent his own methods and the means whereby he could carry them out. In the early days of his appointment as surgeon to the hospital he constantly found his beds filled with patients suffering from broken limbs, varicose and other ulcers, abscesses of all kinds, huge ovarian cysts, and great uterine fibroid tumours. Operation days then were field days. Surgeons worked together in mutual help and encouragement; and it was quite usual for Ramsay to do eight or ten operations between the hours of 3 p.m. and 8 or 9 at night. It is said of him that his fine presence inspired quick confidence; that he was a silent man who wasted no words and lost no time; that he was rapid in thought, in word, and in act—the least hesitating of men; that he combined the thinker and the practised surgeon; and that he did as much as in him lay for each patient placed in his care. He worked with all his might for his fellow-men, being the swiftest in all things.

What Mr. Ramsay did was considerable. With his ever-flowing wealth of ideas, fancies, and methods, his flashing wit and his many activities in all directions, he made his presence an illumination and an inspiration wherever he went. Being of an inventive genius and mechanically minded—he possessed a workshop furnished with three lathes—he invented many new instruments and appliances. He did not despise even the bicycle pump, which he successfully employed in reducing early intussusception in a number of infants by ballooning the colon. Perhaps the best known of his inventions is the uterine hollow dilator. Among other instruments he invented a vulsellum forceps ; dissecting forceps, two into three teeth, with broad, blunt handles ; flushing curettes ; towel clips with tenaculum points ; broad ligament clamps ; modified Lane gouges for skull surgery ; and a slot-eye ligature passer. There are a number of known surgical procedures to his credit : such as his method of nephrorrhaphy (*British Medical Journal*, 1897, i, 1111) for floating kidney, and his method of wiring the fractured patella by threading silver wire along drill holes run horizontally through each fragment, thereafter approximating the two fragments by firmly twisting the ends of the wires in opposite directions. This was afterwards named Hamilton's operation. In a number of different operations Mr. Ramsay used strips of live fascia as ligature material, carefully preserving the blood supply. In his radical cure for hernia he used a slip of fascia from the external oblique muscle as a running suture. On December 2nd, 1902 (*B.M.J.*, 1904, i, 304), by instituting the method of treatment by drainage, he placed the management of acute haemorrhagic pancreatitis upon a rational basis. He was the author of several papers: (1) " Large Spina Bifida—Excision—Recovery " (*B.M.J.*, 1895) ; (2) " Fixation of Liver and both Kidneys in Case of Glénard's Disease " (ibid., 1897) ; (3) " Why is the Abdomen opened in the Median Line? " (*Lancet*, 1895) ; (4) " Large Uterine Myoma Causing Obstruction in a Lady aged 76—Successful Removal " (*Trans. British Gynaecol. Soc.*, 1896).

And so this small tribute to Ramsay, great as he was both as surgeon and artist in the creative period of operative surgery. What he originated for the art and science must prove to be of lasting worth. If great in report, he was greater by deeds ; and he will live in fame in the hearts of the many who benefited by his skill and who enjoyed his kindly friendship But he was indifferent to fame. He loved true honour more, and was content to work unnoticed in his own quiet way. Although there must be many portions of Ramsay's work which the world has not heard of, yet with the narration of the simple facts of his life here recorded it may be seen what manner of man he was. " May the earth be light upon him."

He is survived by his widow, by two sons who are farming in Kenya Colony, and by one daughter, Dr. Olive Ramsay, who is in medical practice in Bournemouth. In 1916 his eldest son, a subaltern in the Sherwood Foresters, was killed in action in France.

Dr. E. KAYE LE FLEMING, Chairman of Council of the British Medical Association, writes :

The death of Ramsay of Bournemouth leaves that town and a wide district in West Hampshire and East Dorset mourning the loss of a great surgeon and an outstanding member of the local profession. For the first quarter of this century Ramsay dominated the field of surgery in Bournemouth and its neighbourhood, where his name and reputation stood unchallenged.

Events move so swiftly in the history of surgery that already the difficulties that confronted the general surgeon in pre-war days are little appreciated. Barely thirty years ago the very word operation was sufficient to arouse a feeling akin to horror in the minds of many country folk, and the idea of entering a hospital or nursing home was only accepted when dictated by sheer necessity. In private homes, great and small, a room would be hastily prepared, such lights as were available obtained (sometimes reinforced by the acetylene headlamps of the early motor car), water boiled, and as many clean towels obtained as possible. The surgeon would bring his own folding operating table, and a local general practitioner would assist and give the anaesthetic. Under such conditions Ramsay would undertake any kind of operation if necessary, and with cheerful confidence and ready resource adapt his methods to his surroundings. The wonderful results of work done with such limited facilities are almost unbelievable to those whose training in surgery dates from the war ; but it was the results which gradually altered the attitude of the public to operations and surgeons.

No small measure of Ramsay's popularity with the general practitioner must be attributed to his graduation in the field of general practice, where he learnt to appreciate the difficulties of this class of work. Behind his skill as a surgeon Ramsay combined a genial personality and transparent honesty of purpose which inspired the greatest confidence alike in colleagues and patients, among whom many to-day mourn the loss of a great surgeon, a trusted friend, and benefactor.

Dr. GEORGE MAHOMED writes :

" The great oak has fallen " ; that is what we feel who labour in the same town wherein Winson Ramsay gained more than local repute. He and I alone survived of those who assisted locally at the Annual Meeting of 1891, and we turned to him as the only possible president in 1934—after the death of Hyla Greves. There were other good and successful surgeons who began to blossom at or about the same time as Ramsay entered on his upward course (Bernard Scott, still with us, and Heygate Vernon), but there was a dominance about Ramsay that made itself felt. It was not very long ago he gave me the details of the dramatic episode which started his hospital career: I knew some of the circumstances, and guessed the working of the *dénouement*. He said: " You know the staff committee had decided that no major abdominal operation should be undertaken at the Victoria ; that was just before I was appointed. In a short time a case of appendicitis turned up. I decided to operate. I told the house-surgeon (it was Wickham), and he reminded me of the resolution. Of course I knew my anatomy, and I had done some operating in Durham, so I meant to go on. ' Very well,' I said, ' I am going to operate, and I require you to prepare the patient for operation ; are you going to do it?' Of course he gave way ; the case did very well, and I heard no more about the resolution passed by the staff committee." I remember a conversation we had in the road, while on our rounds, probably in the 'eighties. We began talking shop—the most interesting subject to good doctors—and found ourselves much in agreement. Then he told me some observations he had made in natural history. I have forgotten what they were, but they were interesting, and out of the way of ordinary medical outlook. From them he inferred the possible cause of some human ailments, and then suggested an entirely novel line of treatment. A few years later there was a rumour of someone standing for the county council in the area he represented. I asked him if he looked forward to a contest ; he said, " Oh, no, I should never canvass for a thing of that sort ; I undertook it because they asked me, and there did not seem to be anyone else, but if they find somebody they think better let them elect him."

As Watson Smith says, Ramsay was quick in decisions. At one time I got a crack from a golf ball which raised an immediate lump in a patch of varicose vein that had

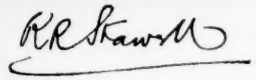
recurred in the exact site of a previous excision. I went to bed and thought Ramsay had better see it. He put his finger on it and said, "What do you tell patients who have a clot in a varicose vein?" I replied, "I tell them not to put a foot to the ground on any pretence." (Later it seemed this was not so absolutely essential.) "Very well," said he, "you have got to lie up for a bit anyway, so this afternoon I will turn out that clot and tie your internal saphena." He did. A little ordinary thing, but characteristic of his methods. Although he was such a big man, Ramsay had a very soft and pleasant voice. If at a medical meeting we became a little excited over some ethical or medico-political question Ramsay would interpose a few sentences, and it had the same effect as that produced by the slave of Gracchus, who played a soft note on the flute when his master became excited in the Senate.

[Photograph by Debenham and Gould, Bournemouth.]

SIR RICHARD STAWELL

Sir THOMAS DUNHILL sends the following personal tribute to the memory of Sir Richard Stawell, President-Elect of the British Medical Association, of whom an obituary notice appeared in last week's *Journal* at page 902.

It is probable that in Australia no death in the profession has caused such widespread sorrow as that of Sir Richard Stawell. For Australians, it is not possible to imagine Melbourne without him. A little older than most of us, there are almost none now alive who knew a Melbourne when he was not already a personage—albeit a human and lovable one. Throughout the years this prestige has increased, and it has come as a stunning blow to realize that he is no more.



His countrymen know that any words of mine fall short of the man. Those who have not lived there may well ask, What manner of man was this, for whom everyone seems to have friendship mixed with something approaching adoration? There are men of dignity, of high purpose; men who are forceful or who are great teachers; men of ability, of sincerity, and of transparent simplicity. He was all this, and it was combined with such fun, such humour, and—as well—such knowledge of the arts as scarcely seemed possible for a man engaged early and late in the practice of an exacting profession.

Married a little late in life, his children were born before the war, and he had the great joy of seeing them grow up. I see him now with them—a German band playing outside which would have distracted many of us: not so him. It gave him the opportunity of teaching his children the music and the lives of the composers on the spot. And as they grew, they learned from him the lines and the feel of good furniture, and what makes or spoils a good picture. What he was to his children he had been to all of us before they were born—always teaching, always helping: when at work, always a certain tenseness—for work absorbed him almost completely, except when on holiday. When seeing a patient with a fellow practitioner he was so occupied by the case that the practitioner ceased for the time to be his friend, and became someone from whom the last detail of information had to be extracted: there was a complete detachment from everything except the elucidation of the matter in hand. It was the same with hospital work, and also in committee; but with students, just enough satire—of the kindliest—to make the truth bite in.

How different on holiday. The tenseness fell away. It was all enjoyment, all fun. Shooting rapids—dangerous ones, too—in Canadian canoes; capsized repeatedly, wet to the skin, drying our clothes around a rapidly built fire in the fields; eating our lunch while the clothes dried; Dick's remark, in his impressive staccato voice: "Food is good, T——, isn't it?" Then into the canoe and off again. Once the fire was made in a peach orchard in full bloom, the whole place luminous with pink blossom—on the trees and covering the grass. Another time in a field of ripening tomatoes—with which we made free. Again, ski-running on Mount Kosciusko. And as we walked one day on our skis to a hut nine miles higher up the mountain he began to tell me the story of Wagner's *Ring*: the Rhine Gold, the Rhine Maidens, Nibelungen, Valkyrie, and the Götterdämmerung. About the last: "You know, in a German opera house the audience is in tears, for they *feel* what the music means: that Valhalla is going smash, the gods are falling, and everything is going up in flames." And by the time he had finished we had reached our destination through the snow.

One could write for hours as the reminiscences crowd in. A great teacher, a great personality, a great friend of all the world has gone. He inherited much from his mother—a wonderful woman, whom I knew—and from his father, whom I only knew by repute. He gave with a large heart and full hands. His immortality is in the lives of his students and friends. I fear it will be long before we see his like again; but a great many will thank God that they were privileged to know Richard Rawdon Stawell.

[The photograph reproduced is by Vandyck, Melbourne.]

JAMES PRAIN STURROCK, M.A., M.D.

The death took place, on April 24th at Inverness after a short illness, of Dr. James P. Sturrock, one of the Commissioners of the General Board of Control for Scotland. Dr. Sturrock was engaged on his annual visitation of the asylums in the North of Scotland when he had a cerebral seizure, from which he did not recover. Born in 1871, a native of Angus, Dr. Sturrock took an M.A. degree at St. Andrews, and then proceeded to Edinburgh for his medical course, graduating M.B., C.M. there in 1897; he proceeded M.D. with honours in 1907. Shortly after graduation he turned his attention to the study of mental disorders, and became medical officer and later assistant superintendent in Larbert Asylum. For a time he was also assistant medical superintendent of Midlothian and Peebles Asylum, and later medical officer to H.M. Prison at Perth and medical superintendent of the criminal lunatic department in this prison. In 1914, when the Mental Deficiency Act was passed, he was appointed Deputy Commissioner of the General Board of Control for Scotland, and in 1922 he became a Commissioner. Dr. Sturrock was devoted to his work, and made numerous contributions to the literature of this department of medicine, including "Certain Insane Conditions Among the Criminal Classes," in the *Journal of Mental Science*, 1910; "The Mentally Deficient Criminal," in the same journal, 1913; "Modern Aspects of Eugenics," in the *Transactions* of Perth Natural Science Society, 1911; and "Inebriety and Feeble-mindedness," in the *British Journal of Inebriety*, 1912. He was particularly interested in that side of his work which dealt with mental defect, and was a member of the Board which manages the State provision for mental defectives. Dr. Sturrock is survived by a widow and a daughter.

CHARLES OWEN DAVIES, M.B., B.S., F.R.C.S., died in Liverpool on March 31st, after a few weeks' illness, at the age of 40 years. He came of a medical family, his father being Dr. John Charles Davies of Wrexham. He was educated at Epsom College, and then spent a year at Aberystwyth University. From the outbreak of the war he served as a captain with the Royal Welch Fusiliers, and gained the Mons decoration. He came back to complete his medical course at the University of Liverpool, and qualified M.R.C.S., L.R.C.P. in 1920. In 1921 he took the degrees of M.B., B.S.Lond. with honours, and a year later obtained his F.R.C.S. He held a resident appointment at the Liverpool Royal Infirmary with the late Mr. Thelwall Thomas, and then became surgical registrar. In 1920–1 he was Robert Gee Fellow in Anatomy in the university. Specializing as a surgeon, he became honorary surgeon to the Bootle General Hospital, and later assistant surgeon also to the Liverpool Stanley Hospital, where four years ago he was elected to the full staff. At the time of his death he was also visiting surgeon to Mill Road Infirmary, and was a lecturer in clinical surgery in the University of Liverpool. A colleague writes: Long preparatory years of hard work, study, and well-considered experience had made Davies into a mature and skilful surgeon. He had an alert and thoughtful mind, quick and sensitive hands, kindness, and a deep sense of responsibility. His skill was catholic, directed always by wide knowledge and hard thinking; so that whether he was dealing with a difficult abdominal condition, a thyroidectomy, the removal of a brain tumour, or an extensive operation on the thorax he looked a fully equipped and convincing operator. To his beautiful craftsmanship was added a surgical judgement which was wise, critical, and decisive. Had he lived he would have taken a high place as a master of his specialty. He died just when he was beginning to see the promise of the reward in consulting practice for all the years of unpaid work at his voluntary hospitals; the heavy calls upon his physical resources in those years had taken too great a toll of his reserves of health and strength. He was a refreshing personality, sincere, downright, impatient of pretence; and he was a surgeon of the highest professional integrity. The simple funeral service at the Liverpool Cathedral, attended by large numbers of his colleagues, nurses from his hospitals, and patients, was a moving farewell to one who had already done outstanding work and whose promise was great. He leaves a widow.

The death took place, on April 23rd, of Dr. WILLIAM TURNBULL BARRIE, at his residence, 18, Bridge Street, Hawick. Dr. Barrie, who had been in failing health for some time, was one of the best-known practitioners in the South of Scotland. Born in Liddesdale in 1859, he took a medical course at Edinburgh University, where he graduated M.B., C.M. in 1880. After serving for some time as a ship surgeon, he became assistant, and later partner, to Dr. McLeod in Hawick in 1885, and his great popularity with his patients in this town was attested on the occasion of his jubilee in 1931, to which Hawick people in all parts of the country, as well as from over-seas, subscribed. He was well known throughout the Border country as a patron of outdoor sports.

The following well-known foreign medical men have recently died: Dr. CHARLES THOREL, formerly director of the Pathological Institute of the Municipal Hospital at Nuremberg, aged 67; Professor EUGEN GALEWSKY, an eminent Dresden dermatologist, aged 72; Dr. JOHANNES PRIOR, co-discoverer of the Finkler-Prior cholera vibrio; Professor URIBE, director of the dermatological clinic at Bogota, Colombia; Professor E. OTIS SMITH, director of the urological clinic of the University of Cincinnati School of Medicine; Professor MICHELE BOLAFFIO, director of the obstetrical and gynaecological clinic at Modena, aged 52; and Dr. WALTER LINCOLN BURRAGE, co-editor of the *Dictionary of American Medical Biography*, and for twenty-five years secretary of the Massachusetts Medical Society.

The Services

DEATHS IN THE SERVICES

Lieut.-Colonel David Leckie, R.A.M.C. (ret.), died in Edinburgh on March 6th, aged 87. He was born on November 18th, 1847, and was educated at Glasgow, where he graduated M.B., C.M. in 1869. Entering the Army as assistant surgeon on April 1st, 1871, he became surgeon major after twelve years' service, and retired on April 15th, 1891. When on the retired list he was employed for a time at Carlisle.

Major Robert Hemphill, D.S.O., R.A.M.C., was accidentally killed by a fall from a cliff at Kellan Head, Cornwall, on April 21st, aged 46. His wife was killed at the same time. Major Hemphill, who was medical officer of the Royal Military Academy, Woolwich, went down to Portuqueen, North Cornwall, with his wife and family, for a short holiday, on April 21st. They went out on the cliffs, where Major Hemphill tried to photograph a buzzard's nest; in doing so he slipped and fell. His wife, in an attempt to help him, also slipped and fell. Their son Peter, aged 15, broke the window of a coastguard look-out hut and telephoned for help to the coastguard, sending a younger sister to a farm at some distance to ask for help there. He then climbed down the cliffs, and found the bodies of his father and mother at the foot. The coastguards on arrival also went down the cliff; they found Major Hemphill dead. His wife was seriously injured, and was taken to hospital, where she died next day. Major Hemphill was born on August 26th, 1888, the son of the late Canon Hemphill of Belfast, and was educated at Trinity College, Dublin, where he graduated B.A., M.B., B.Ch., and B.A.O. in 1912. While at Trinity he played for four years in the University Rugby team, and in 1912 played for Ireland in all four international matches. Entering the R.A.M.C. as lieutenant on January 24th, 1913, he became captain in the long war promotion list of March 1st, 1915, and major on January 24th, 1925, and was just on the period of promotion to lieutenant-colonel. He served in France throughout the war of 1914–18, was mentioned in dispatches in the *London Gazette* of January 1st, 1916, and May 25th, 1918, and received the D.S.O. in 1918. He married Kathleen, daughter of the late Mr. Augustus Smith of Bitterne, Hampshire, and had three children.

Medical News

Professor Edward Mellanby, M.D., F.R.S., will deliver the Cavendish Lecture before the West London Medico-Chirurgical Society at Kensington Town Hall on Thursday, June 13th. His subject will be "Proper Feeding: The First Essential for Good Physique and Health."

Dr. E. W. Fish will deliver two public lectures on "The Physiology of Teeth," at University College, Gower Street, W.C., on Tuesdays, May 7th and 14th, at 5 p.m. On Mondays, May 13th, 20th, 27th, and June 3rd, at 5 p.m., also at University College, Dr. D. H. K. Lee will give a course of four public lectures on "The Physiological Effects of Tropical Climate." All the lectures are open without fee or ticket.

Miss Noel Tidy, C.S.M.M.G., will deliver a Chadwick Public Lecture on "Physical Exercises: Educational and Preventive," at 26, Portland Place, W., on Thursday, May 23rd, at 5.30 p.m. Sir James Crichton-Browne, F.R.S., will be in the chair.

The annual general meeting of the London Section of the Society of Chemical Industry will be held at the rooms of the Chemical Society, Burlington House, Piccadilly, W., on Monday, May 13th, at 8 p.m., and will be followed by an address by Dr. F. L. Pyman, F.R.S., on "Chemotherapy."

The Committee Against Malnutrition announces that a public meeting will be held at the Conway Hall, Red Lion Square, W.C., on Thursday, May 16th, at 8 p.m., to consider especially the health and nutrition of women and children in this country. The chair will be taken by Professor V. H. Mottram, and the speakers will include Miss Eleanor Rathbone, M.P., Dr. Janet M. Vaughan, Professor J. R. Marrack, and Dr. J. Needham. Tickets at 1s. each can be obtained from the honorary secretary, Committee Against Malnutrition, 19c, Eagle Street, Holborn, W.C. (telephone: Chancery 7567).

The House of the British Medical Association, including the Library, will be closed on Monday, May 6th, which has been proclaimed a Bank Holiday in celebration of the King's silver jubilee.

The House of the Royal Society of Medicine, including the Library, will be closed on Monday, May 6th.

In celebration of the eight hundredth anniversary of the birth of Maimonides (April 17th, 1935), the following lectures will be given at Cambridge in the Mill Lane Lecture Rooms at 5 p.m.: May 8th, "The Philosophical System of Maimonides and its Place in the History of Thought," by Dr. S. Atlas, formerly professor of philosophy, Warsaw; May 9th, "Maimonides's Theory of the State," by Dr. E. Rosenthal; May 10th, "The Place of Maimonides in Medicine and Science," by Dr. A P. Cawadias. Exhibitions will be arranged of the MSS. of Maimonides and of early printed editions of his works.

The annual general meeting of the Subsection of Proctology of the Section of Surgery of the Royal Society of Medicine will be held on Wednesday, May 8th, at 5 p.m. The election of officers and council for 1935–6 will be followed by a discussion on "The Conservative Surgery of Carcinoma of the Rectum," to be opened by Professor Grey Turner and Mr. H. H. Rayner.

A sessional meeting of the Royal Sanitary Institute will be held at Cardiff on Friday and Saturday, May 10th and 11th, in conjunction with the Welsh branch of the Society of Medical Officers of Health. There will be discussions on "A Modern General Hospital," to be opened by Dr. David G. Morgan; on "Some Principles in the Construction of a Modern Tuberculosis Hospital," to be opened by Dr. William Davies; and on "The Sanitary Inspector of To-day," to be opened by Mr. W. G. Pyatt. Full particulars of the meeting can be obtained from the honorary local secretary, Dr. J. Greenwood Wilson, City Hall, Cardiff.

The Glasgow University Club, London, will dine at the Trocadero Restaurant, Piccadilly, W., on Friday, May 31st, at 7.30 p.m., with the president, Lord Macmillan, in the chair. Any Glasgow University men who, though not members of the club, desire to attend are requested to communicate with the honorary secretaries, 62, Harley House, N.W.1.

The Fellowship of Medicine (1, Wimpole Street, W.) announces that a week's course in thoracic surgery will be given at Brompton Hospital from May 13th to 18th. Other courses include proctology, at Gordon Hospital, May 20th to 25th; gynaecology, at Chelsea Hospital for Women, May 27th to June 8th; chest diseases, at Victoria Park Hospital, May 27th to June 1st; venereal diseases, at London Lock Hospital, May 27th to June 22nd; chest diseases, at Brompton Hospital, May 11th and 12th; obstetrics, at City of London Maternity Hospital, May 25th and 26th; infectious diseases, at Park Hospital, Hither Green, S.E., June 15th and 16th; M.R.C.P. course in chest diseases, at Brompton Hospital, during June; an evening clinical and pathological course, on Tuesdays and Thursdays, at 8 p.m., at National Temperance Hospital, June 11th to 27th; and an evening M.R.C.P. course, at Victoria Park Hospital, dealing with heart and lungs, on Wednesdays and Fridays, June 5th to 21st.

The first Congress on Undulant Fever in Men and Animals will be held at Avignon from June 11th to 13th. Further information can be obtained from the general secretary, Dr. Joseph Jullien, Joyeuse, Ardèche, France.

The twentieth Congress of Forensic and Social Medicine will be held at Brussels from July 17th to 20th, when the subjects for discussion will be traumatic neuroses, introduced by Dr. Costedoat of the Val de Grâce Military Hospital; traumatic psychoses, by Dr. De Craene of Brussels; and the association of social medicine with forensic medicine, by Dr. René Sand. Further information can be obtained from the general secretary, Dr. M. De Laet, Faculté de Médecine, 115, Boulevard Waterloo, Brussels.

Mr. G. M. Huggins, F.R.C.S., Prime Minister of Southern Rhodesia, has arrived in London in connexion with the Jubilee celebrations.

The first congress of the Austrian oto-rhino-laryngologists will be held in Vienna on June 21st and 22nd, under the presidency of Professors M. Hajek of Vienna, G. Hofer of Graz, W. Krainz of Innsbruck, and H. Neumann of Vienna. Further information can be obtained from Ernst Urlantschitsch, Schottenring 24, Vienna.

The issue of *Paris Médical* for April 13th, like that of March 30th, is devoted to war gas, and that of April 20th to mineral waters and climatotherapy.

Dr. T. Wilson Parry has contributed to *Man* (the journal of the Royal Anthropological Institute) an account of the Ovingdean prehistoric skull exhibiting double primitive surgical holing. This skull, it will be remembered, was trawled from the sea, about three-quarters of a mile off the Sussex coast, opposite Ovingdean, on January 12th last. Dr. Wilson Parry's paper is followed by a note on the physical anthropology of this skull, by M. L. Tildesley.

The military governor of Les Invalides, General Mariaux, has conferred the order of Grand Officer of the Legion of Honour on the radiologist, Dr. Vaillant, who had had both his arms amputated for radiodermatitis.

An office of medical cinematography has been created in Paris with Dr. Maurice Fabre as scientific director and M. Paul Thoby as technical director, from whom further information can be obtained, Rue de Conservatoire 13, Paris IXe.

In the Ostran-Kaiminer district of Czechoslovakia there has recently been a very severe outbreak of scarlet fever and diphtheria. The children's hospitals have been so crowded that three or four children have had to be put in the same bed.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

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QUERIES AND ANSWERS

Circumcision of Female Children

"F.R.C.S." inquires regarding circumcision in female children for nervous or other general diseases. Such a case has been referred to him by an Americal practitioner, who says it is a common practice in the United States. The practitioner himself has seen it performed some ten to twelve times. "F.R.C.S." has never performed the operation, or heard of it being performed, in children (aged 5 in this case), and would be grateful for information upon the subject.

Oedema of One Arm

Dr. M. GONGULEE (Bengal, Dacca) writes: In the *Journal* of January 19th Dr. H. B. A. Ratcliffe-Densham cited a peculiar case of oedema of one arm, and invited some suggestions for treatment. I take this opportunity of sending you an instance that came under my observation bearing much resemblance to the case referred to. This patient, aged about 50 years, suffered occasionally from malaria—a very common disease in this part of Bengal. But for the last six months he observed that his right arm, between the elbow and the wrist, had become oedematous. It was neither tender nor painful. He tried various remedies without any avail. When he consulted me I advised the examination of the blood after a nap in the middle of the night. To our great satisfaction the mystery was solved. As I expected, it proved to be a case of filariasis—a malady not of rare occurrence in the Tropics. I thought of it because the glands in the right axilla were a little prominent, being palpable on pressure. I acted on the idea that the lymphatic circulation in deeper regions of that arm was very possibly obstructed and that gave rise to the oedema. This patient's urine showed no abnormality. The differential count of his blood presented a little lymphocytosis, but the total count remained normal. His spleen and liver were also normal in size. The cardiovascular system also seemed normal, and the Wassermann reaction was negative. After this diagnosis he has been treated with antimony and filaria vaccine, and his arm has now returned to its normal size.

Income Tax

Remittance from Abroad

"S. H." is in practice abroad. If his wife returns to England will she be liable for tax on remittances made by him from his earnings, and what will be the position when he joins her here for, say, eight months?

*** The wife will not be liable to tax on such remittances, whether she has a house of her own or resides in a furnished house. But when "S. H." comes to this country he will, in the former case, be a British resident, and become liable to pay tax on the income received here in the financial year—less, of course, the usual allowances and reliefs. If neither the wife nor "S. H." establish a residence here he will not be liable when he comes over provided he does not spend six months in any one financial year in the United Kingdom.

Valuation for Insurance

"INQUISITIVE" is allowed half the cost of insuring the contents of his house as attributable to professional equipment. He has recently had the contents valued at a cost of 12 guineas, but the inspector of taxes refuses to allow any proportion of this.

*** Presumably the ground of objection is that as the valuation cost is incurred once for purposes to be spread over future years it is "capital" outlay. There is some ground for that view, but it does seem to us that the inspector is dealing with a reasonable claim in a narrow spirit. So far as our knowledge goes such expenses would normally be allowed, unless there were some unusual circumstances.

LETTERS, NOTES, ETC.

Syrup in Treatment of Burns

Mr. H. C. S. DE WHALLEY, F.I.C. (chief chemist, Tate and Lyle, Ltd., London, E. 16), writes: An abstract appearing in the *Epitome* of April 6th, para. 285, describes the local application of common sugar in suppurative diabetic sores, and explains its action as almost entirely due to osmosis. It may be of interest to record that Lyle's golden syrup, which contains dextrose, laevulose, and sucrose, has an enormously high osmotic pressure. It also has the advantage of being completely sterile. I had occasion to try the remedy on myself for a chemical burn with boiling sulphuric acid. After quickly washing off the acid and drying my hand a painful blister formed. When this was covered with golden syrup the pain immediately abated, and the blister had completely disappeared in about fifteen minutes.

Bed Urinal for Prostatic Cases

Dr. C. HORWITZ (London, N.) writes: I would like to draw the attention of those who suffer from hypertrophy of the prostate with nocturnal enuresis to a simple remedy I offer to my patients. In order to save them the inconvenience of having to rise from a warm bed in the middle of the night I tell them to purchase an ordinary glass water bottle with a large mouth—the ordinary water bottle found usually for washing one's teeth is the thing. They should use this as a urinal. It is left standing by the side of the bed on the floor. When needed the patient places the water bottle between his legs, and it rests at a fair angle on the bed—he passes water lying on his back. This is less expensive than an ordinary urinal, and for sentimental reasons preferred by patients.

Varicocele on the Right Side

Dr. N. M. SHAH (Nakuru, Kenya) writes: In the *Manual of Surgery* by Rose and Carless (eleventh edition) it is mentioned that a varicocele is almost invariably on the left side, chiefly on account of certain anatomical relations of the left spermatic vein, peculiar to the left side only. But I have recently come across a typical case of varicocele on the right side in a young unmarried man of 30, who is otherwise quite normal, the varicocele having begun to appear at the age of 26.

The Poison that was Poured Away

Lieut.-Colonel R. H. ELLIOT (London, W.1) writes: In your issue of April 6th Dr. Letitia Fairfield refers to "the teetotal peeress who inherited a cellar of valuable wines, and ordered her butler to pour them down the drain under the sincere belief that alcohol was poison. No one has ever contended that this act, though shocking to all right-minded persons, was in any way illegal." I can furnish an amusing commentary on this incident. During her last illness this able and original lady had eye trouble, for which I attended her. Though very charming, she was a little *difficile* with nurses, but I was able to get for her an excellent and tactful nurse, of whom she became very fond. On one occasion on visiting the lady I found the nurse much amused. She told me the reason. She had said: "Lady ——, it was a shame for you to pour all that beautiful wine down the drains at a time when there were so many of our soldiers who would have appreciated it." The old lady replied: "My dear, I will tell you a secret; that wine was all corked. It was not fit to drink." Comment is needless.

Medical Golf

In a match recently played at Brockworth a team representing the Gloucestershire Branch of the British Medical Association met a team from the Gloucestershire and Wiltshire Law Society, twelve playing on each side. The result was a win for the legal golfers by $6\frac{1}{2}$ to $5\frac{1}{2}$.

Central Midwives Board: Correction

In the paragraph with this heading (April 27th, p. 893) it was incorrectly stated that the Ministry of Health had reappointed Dr. Fairbairn, Miss Doubleday, and Miss Pollard as representatives on the Board. These three persons are appointed by the Incorporated Midwives' Institute under the Central Midwives Board (Constitution) Order, 1920, which requires that one registered medical practitioner and two certified midwives shall be appointed by that institute.

Corrigenda

It would seem that the "printer's devil" must have an anti-psychotherapeutic bias, for two of his symptomatic actions have taken this colour recently in our columns. To stigmatize on the Contents page of our issue of March 16th "Psycho*therapy* as a Cause of Incapacity among Insured persons" was bad enough, but to this insult was added the injury on April 13th of substituting the adjective "psycho*neurotic*" for "psychotherapeutic" in describing the methods of treatment which include persuasion, re-education, and others.

Owing to an error in *Epitome* paragraph 310, in the *Journal* of April 13th, the word "hypermetropic" appeared instead of "hypertrophic" in the third line, while in the third line from the end the words "or from" should be inserted between "pigmentosa" and "quinine."

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 56, 57, 58, 59, 60, 61, 64, and 65 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 62 and 63.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 216.